TEXTILE TECHNOLOGY DIGEST

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ABSTRACTS

FIBERS A

HOW 8 FIBERS COMPARE IN STRESS-STRAIN PROPERTIES. J. F. de Bordenave, D. J. Bringardner, and H. T. Pratt (E. I. du Pont de Nemours & Co.). Textile World 108: 97-114 (Mar. 1958). (1128)

Stress-strain properties were determined under a variety of conditions for acetate, Dacron, nylon, Orlon, textile rayon, Super Cordura high-tenacity rayon, cotton, silk, and wool. Data are given on stress-strain properties and suggestions are made on how this information can be used in processing. Graphs. Tables.

BRUSHMAKING MATERIALS. F. Kidd. Brit. Brush Mfrs. Research Assoc., 80 Coleman Street, London, E. C. 2, England. 1957. 188 p. 30s. (1129)

Brush filling materials are discussed under the headings: materials of animal origin: materials of vegetable origin; materials of manmade origin; identification; moisture; physical properties; chemical properties; processing; adhesives; handles, backs, boards, stocks, and quills; metals, cords, thrums, and mop yarns; and damaged brushes and the care of brushes.

NATURAL FIBERS A 1

CUTICLE OF WOOL. N. Bigler. Ciba Rev. 11: 36-42 (Jan. 1958). (1130)

The wool cuticle and its effect on the surface properties of the wool fiber are discussed, and methods for the study of the scale structure of wool fibers are described. Diagrams. Photomicrographs. 14 references.

HARD FIBERS. A. E. Haarer. Fibres 19: 39-41, 56 (Feb. 1958). (1131)

The main applications of such hard fibers as sisal, abaca, and hemp for rope and cordage, the competition from manmade fibers in this field, and the difficulties of cultivation (as exemplified by sisal) are reviewed.

THEORY OF FIBER EXTRACTION. CHAPTER 7. MECHANICAL FIBER EXTRACTION. J. G. Thieme. Textile & Cordage Quart. 7, No. 4: 192-203 (1957). (1132)

History of the development of mechanical fiber extraction machinery. Diagrams. Photographs. Tables. 20 references.

INFLUENCE OF WEATHERING PRIOR TO HARVEST ON CERTAIN PROPERTIES OF COTTON FIBERS. P. B. Marsh, G. V. Merola, M. L. Butler, and M. E. Simpson (U. S. Dept. of Agri.). Textile Research J. 28: 95-111 (Feb. 1958). (1133)

Most of the commercial cotton fiber produced in the United States is subjected to a period of from one to many weeks of exposure to the weather before it is harvested from the plant. Such weathering has been shown in prior work to be a cause of changes in the wax on the fiber, in the fiber's swelling behavior in alkali, and, under humid conditions, in the pH of water extracts of the fiber. Subsequent investigation has revealed that a number of other fiber properties also may undergo change during preharvest weathering including moisture regain at constant relative humidity, dye absorption, content of water-soluble reducing substances, browning tendency, rate of wetting in a water-alcohol mixture, length, strength, and susceptibility to enzymatic decomposition. The x-ray angle showed little if any alteration. Several of the fiber properties which change during weathering have been measured on commercial fiber samples and the results found to show a relationship to the grade of the fiber. A rapid and practical test for measuring the water-soluble copper-reducing constituents in raw cotton fiber is described. The methods used in the work are described in an appendix. Tables. Graphs. 31 references.

SUMMARY OF FIBER AND PROCESSING TEST RESULTS ON SOME VARIETIES OF COTTON GROWN BY SELECTED COTTON IMPROVEMENT GROUPS, CROP OF 1957. U. S. Agric. Mktg. Serv., Washington 25, D. C. 1958. 84 p. Agri. information bull. no. 186. Free. (1134)

COTTON TRADE JOURNAL INTERNATIONAL YEARBOOK, 1957-1958. Cotton Trade Journal, Inc., Memphis, Tenn. 1958. 268 p. $3.00. (1135)

This yearbook contains articles on cotton growing, economics, marketing, manufacture, and research in countries all over the world.

SISAL INDUSTRY OF KENYA. R. Goodhart. Fibres 19: 47-48, 51 (Feb. 1958). (1136)

The history and the present position of sisal growing are described, and future prospects are considered.

COTTON IN THE WORK GLOVE INDUSTRY. F. A. McCord and J. L. Williams. Nat. Cotton Council of America, Memphis, Tenn. Oct. 1957. 26 p. (1137)

THE NEW REVOLUTION IN THE COTTON ECONOMY: MECHANIZATION AND ITS CONSEQUENCES. J. H. Street. Univ. of N. C. Press, Chapel Hill, N. C. 1957. 294 p. $5.00. (1138)

The mechanization of cotton harvesting and its economic and social implications are considered.

WHAT YOU CAN EXPECT FROM 1957 COTTON. F. L. Gerdes. Textile World 108: 86-88, 180, 182 (Mar. 1958). (1139)

USDA fiber and spinning tests, based on early pickings, show that fiber and spinning qualities are off in rain-damage areas; grades are off in the Central area and Texas, but staple length and fineness are satisfactory; fiber and yarn properties are normal in the Southeastern states; and the best cotton this year was produced in the Far West area.

HYGROSCOPICITY OF INDIAN COTTONS. A. N. Gulati. Indian Textile J. 68: 166-167, 178 (Dec. 1957). (1140)

Observations made on the relative behavior of seed, lint, and kapas in changing atmospheric conditions of two Indian-grown cottons, Surat 1027 ALF and Cambodia Co2, are discussed. Tables. 7 references.

TRYPTOPHAN CONTENT OF WOOL. D. R. Graham and R. W. Statham (Abbey Meadow Mills). (Letter to the editor). Nature 181: 861 (Mar. 22, 1958). (1141)

MANMADE FIBERS A 2

FIVE PROPERTIES THAT AFFECT MANMADE FIBER PROCESSING. H. L. Roder (Algemene Kunstzijde Unie). Textile World 108: 90-91 (Mar. 1958). (1142)

Five properties of individual fibers that influence processing of manmade fibers include length, thickness, geometrical structure, surface layer, and inside structure. Better processing can result from tests made to determine the collective-fiber properties, which include the measurement of sliver strength and drafting forces. Graphs.

MEANING OF MERGE NUMBERS. E. I. du Pont de Nemours & Co., Textile Fibers Dept., Wilmington, Del. Mar. 1958. 4 p. Bull. X-85. Free. (1143)

Merge numbers are assigned to all of du Pont's production of textile fibers. A merge number is a means of identifying those fiber packages which have similar quality and processing characteristics. All shipments of a given fiber having the same merge number are similar in physical properties, color, luster, dyeability, processing, and end product characteristics and can be used interchangeably.

CHEMICAL STRUCTURE OF HIGH POLYMERS AND THEIR PHYSICAL BEHAVIOR. H. W. Melville. Textile Weekly 58(1): 449-452 (Feb. 14, 1958). (1144)

The relationship between properties and chemical constitution, with particular reference to the main classes of high polymeric materials, and the approaches used for achieving the required properties are described.

MANMADE FIBERS WEAVE GLOWING FUTURE. E. Schwarz. Chem. Week 82: 93-115 (Mar. 8, 1958). (1145)

Survey of long-range trends in the manmade fiber industry. Present and future production and uses for the various manmade fibers are considered. A listing of 35 key producers of U.S. manmade fibers gives tradenames, plant locations, and what is produced. A checklist of 385 foreign tradenames lists fiber types and producers in 22 countries.

DATA ON NEW FIBERS: IDENTIFICATION AND USE IN BLENDS. J. Jacquemart. Rev. Textile 56, No. 5: 293-302 (1957). In French. Through BCIRA 37: 571 (1957). (1146)

In this review, the author discusses the terminology, principles of preparation, competition of manmade fibers with natural fibers, methods of analysis and identification, blending of manmade and natural fibers, and properties of the resulting product.

SYNTHETIC FIBERS: PRINCIPLES OF MANUFACTURE, DYEING, FINISHING, PRINTING. G. Pozza. Rev. Textile 56, No. 3: 173-184; No. 5: 326-332 (1957). In French. Through BCIRA 37: 571 (1957). (1147)

This is the first part of the study, discussing the chemical constitution of natural and synthetic high polymers.

POLYTHENE IN TEXTILES: PRODUCTION, PROPERTIES, PROCESSING, AND USES. PART 1. W. Henstead. Man-Made Textiles 34: 43-44 (Mar. 1958). (1148)

The principles of manufacture, the main types of yarn, and characteristic physical properties are described.

DYNEL: IMPORTANT UTILITARIAN FIBER. Union Carbide Corp. Am. Textile Reptr. 72: 28-29, 61-62 (Mar. 20, 1958). (1149)

The uses and properties of Dynel in woven, bonded nonwoven, and nonbonded needle-punch constructions for industrial applications are discussed. Photographs.

POLYMER PROGRESS: 1958 SERIES. PART 2. IMPROVING THE METHOD OF POLYESTER PRODUCTION. J. A. Somers. Man-Made Textiles 34: 47-48 (Mar. 1958). (1150)

Patent review of methods of manufacturing the fiber polymers. 9 references.

YARN PRODUCTION B

MODERN SPINNING PLANT OF TODAY AND WHAT ARE THE FUTURE TRENDS? N. C. Gryndahl (Monarch Knitting Co. Ltd). Can. Textile J. 75: 57-62 (Feb. 21, 1958). (1151)

Following a description of the characteristics which determine the spinning limit of cotton, present trends in opening, cleaning, carding, drawing, combing, and spinning are reviewed. Brief mention is made of the German process of "comb spinning," which is still in the early developmental stages.

TOWS AND YARNS. F. Millard. Nylon Outlook 1: 31-33 (Winter 1958). (1152)

Present day methods and machines for converting tow to sliver and yarn by cutting or breaking (Greenfield, Pacific converter, Rieter converter, Seydel Spinnbandreissmaschine, Turbo stapler, Cutdrafil, and Stains spinner) are briefly reviewed. Figures. Table.

PROCESSING OF WOOL/TERYLENE BLENDS ON THE BRADFORD SYSTEM. G. Papp and P. P. Townend. J. Textile Inst. 49: P47-P59 (Feb. 1958). (1153)

The series of experiments described deal with drawing and spinning of wool/Terylene blends on the Bradford system. The work falls into four parts. In the first, the processing of a range of black wool/white Terylene blends followed the conventional drawing technique, and the drag was assessed at each stage of drawing; in the second, an attempt was made to spin yarns superior to those of the first part by measuring the strength of the slubbing and adjusting the machine to keep the strength constant throughout; the object of part 3 was to mix white Terylene staple of mixed fiber length with black wool to test the contention that this type of staple in mixtures with wool results in superior color levelness, and to determine the effect of such a radical change in fiber diagram on the resulting slubbings, yarns, and fabrics; in part 4, the colors of the component fibers were changed to see whether the inversion of color affected the uniformity of the resulting slubbings, yarns, and fabrics. Tables. Graphs. 5 references.

OPENING, PICKING, FIBER PREPARATION B 1

NO. 11 DUST AND WASTE EXTRACTOR. Saco-Lowell Shops. Saco-Lowell Bull. 29: 29-30 (Dec. 1957). (1154)

A new automatic cleaning unit, adaptable to models of the dust and waste extractor now in place, improves the cleaning efficiency of the No. 11 extractor in the opening line. Diagrams.

RECENT DEVELOPMENTS IN POLISH TEXTILE MACHINERY. B. Scotland. Can. Textile J. 75: 77-79 (Mar. 7, 1958). (1155)

The machines described (Befama AC-2A rag tearing machine, AC3-AC7 hard thread opener, spiral willow, and AB-5 tenterhook willow) cover only the opening of rags and waste for processing in carding sets.

CARDING AND COMBING B 2

TROUBLE-SHOOTING ON COTTON COMBERS. PART 1. M. Gross. Textile Inds. 122: 118-119 (Mar. 1958). (1156)

The effects of lap quality, top combing action, and nipper settings on sliver quality are analyzed.

HARTFORD HIGH PRODUCTION COMBER. Platts Bull. 9, No. 5: 116-127 (1958). (1157)

The main advantages and mechanical features of the Hartford comber, based on the principles of the original Nasmith comber, are given. Photographs.

CARDING OF POLYAMIDE FIBERS: TECHNICAL DATA FOR THE SETTING OF CARDS. W. Winkler. Reyon, Zellwolle u. Chemiefasern No. 7: 489-490 (1957). In German. Through BCIRA 37: 578 (1957). (1158)

The carding process in general and that between cylinder and the flats in particular, setting of the flat covering, calculation of the fiber density on the doffer, and adjustment of the doffer comb are discussed.

CLEAN AIR IN CARDROOM. F. Brownsett. Textile Weekly 58(1): 469, 471, 482 (Feb. 14, 1958). (1159)

The fundamental work carried on at the Shirley Institute on developing and testing all possible methods of reducing the atmospheric dust load in cardrooms and how it led to the development and adoption of the Shirley pressure point system is explained.

GRINDING AND SETTING SCHEDULES FOR COTTON CARDS. J. K. Clegg. Textile Recorder 75: 62-63 (Mar. 1958). (1160)

Methods for determining and compiling fixed schedules are described.

METHOD FOR ECONOMICAL GRINDING OF FLATS. W. F. Schweizer. Tex 16, No. 7: 907-909 (1957). In Dutch. Through BCIRA 37: 578 (1957). (1161)

The usual grinding methods are reviewed and an improved method and the mechanism of the installation are briefly described.

CARD SET DRIVE. A. Roch. Melliand Textilber. 38, No. 6: 598-602; No. 7: 743-745 (1957). In German. Through BCIRA 37: 578 (1957). (1162)

The synchronized drive with a synchronous slip-ring rotor and various switch systems is described and synchronization stability during the individual processing stages is theoretically discussed, with reference to interferences and faulty switching. Moment curves are given to show the practical application of the synchronized drive.

LAP FORMING AND SPECIAL APPARATUS FOR THE COTTON-WOOL AND FELT INDUSTRIES. Spinner u. Weber 75, No. 11: 559-561 (1957). In German. Through BCIRA 37: 577 (1957). (1163)

The advantages of the lap former over previous machines used in the cotton-wool and felt industries are discussed, with special reference to its use for sized and surgical cotton-wools and as replacement for the Blamire's feeding arrangements used in the felt industry.

TAPE CONDENSER. PART 1. DRAFTING. W. J. Crofts. Textile Inds. 122: 86-89 (Mar. 1958). (1164)

The quality of roving produced by the woolen card is controlled to a large extent by the settings and maintenance of the tape condenser. In this examination of the drafting effects at the tape condenser, slack drafting, winding tension, tape-to-apron draft, static, temperature, humidity, drafting speed, and wavy webs are discussed. Diagrams. Photograph.

SUBSTANTIAL SAVINGS FROM CONSTANT CARD APPARATUS. Coats & Clark, Inc. Am. Textile Reptr. 72: 15, 54 (Mar. 13, 1958). (1165)

The operation of the Constant Card stripper is briefly described, and the savings obtainable from its use, as well as other advantages, are briefly discussed. Photographs.

IMPROVEMENT OF CARD WEBS. K. H. Gramminger. Textil-Praxis 12, No. 9: 858-860 (1957). In German. Through BCIRA 37: 750 (1957). (1166)

Faults in card setting and their consequences are discussed and a new setting system is described by means of which the purity and regularity of the card webs can be considerably improved.

COMBING AS PART OF SPINNING PROCESS. C. Brandt (Whitin Mach. Works). Am. Textile Reptr. 72: 9-10, 35 (Mar. 6, 1958). (1167)

The function of the comber, the cost of the combing operation, and the advantages of combing with respect to the end product achieved are discussed. Graphs. Tables.

DRAWING AND ROVING B 3

SMALL COMPENDIUM ON IRREGULARITIES OCCURRING IN SPINNING. S. Kramer. Spinner u. Weber 75, No. 12: 614-615; No. 14: 726-728 (1957). In German. Through BCIRA 37: 579 (1957). (1168)

A brief account is given of the theory of mass irregularity in slivers, rovings, and yarns, and the relevant test and evaluation methods are discussed.

COMMON CAUSES OF IRREGULARITY AT THE DRAW FRAME. J. Locke (Brit. Rayon Research Assoc.). Textile Recorder 75: 58-61 (Mar. 1958). (1169)

Although draw frames are largely successful in suppressing long wave irregularities, short wave irregularity is introduced. These short wave irregularities are due in part to the drafting wave, but they are frequently also caused by irregular movement of the drafting rollers on the draw frame itself. These irregular roller movements arise mainly from: (1) slippage between the fibers and the bottom rollers which causes irregular movement of the top rollers, and (2) irregular movement of the bottom steel rollers caused by gearing faults. Means of avoiding these difficulties are discussed. Graphs. Diagrams.

DRAFTING STUDIES. PARTS 1 AND 2. A. Wilhelm and R. Schön. Textil-Praxis 12, No. 9: 867-872; No. 10: 971-975 (1957). In German. Through BCIRA 37: 750 (1957). (1170)

Periodic draft irregularities, resulting from relatively small faults in fluted or pressure rollers (bends, worn-out grooves or covers, eccentricity of the top rollers, etc.) and leading to moiré effects in the yarn, are discussed. These effects are particularly pronounced at high drafts and in the case of short fiber material. Experiments have shown that the periods are no longer visible at drafts of less than 30. In part 2 of this study it is shown how these effects can be eliminated or reduced.

RELATIONSHIPS BETWEEN DRAFTING FORCE AND SLIVER CROSS-SECTION BEFORE AND AFTER DRAFTING. F. Maag. Melliand Textilber. 38, No. 9: 982-983 (1957). In German. Through BCIRA 37: 750 (1957). (1171)

The experiments described were carried out on speed-frame roving by examining the cross-section before and after drawing by means of the Uster regularity tester and recording the two diagrams above each other so that the mean values of the two diagrams corresponded to each other. The change in the character of the drafting forces (high forces with stick-slip cycles and low forces without this phenomenon) is shown to be the cause of irregular draft in the critical drafting region. If the stick-slip cycles in the sub-critical drafting region occur regularly, no impairment of the sliver regularity is to be feared. The frequency of the stick-slip cycles is shown to be so high that the corresponding sections are only a few millimeters long even after 100-fold drafts.

STUDY OF DIFFERENT DRAWFRAME SETTINGS AND THEIR EFFECTS ON YARN QUALITY. E. Simon. Melliand Textilber. (English ed.) 39, No. 1: 4, 6 (1958). (1172)

The results of tests undertaken to investigate the suitability of (1) the single-zone system, (2) the two-zone system, and (3) the conventional draft distribution for processing of different types of rayon staple fibers are presented. The two-zone drafting system proved successful for all three types of staple fibers. The system can be successfully applied where the conventional drafting distribution is applied on four-roller drafting systems. However, new drawframes with spring loading and three- over four-roller systems make further improvements in the Uster-values of the slivers by about 1% possible. Graphs. 5 references.

FORCES OCCURRING DURING DRAWING OF SPEED FRAME ROVING. F. Maag. Melliand Textilber. 38, No. 7: 738-742 (1957). In German. Through BCIRA 37: 579 (1957). (1173)

Experiments are reported which were carried out, by using the apparatus and method for evaluating the results described in a previous article (abstr. 3491 (1957)), to determine the effects of feeding rate, degree of draft, distance between the nipping points, and twist of the roving on the magnitude of the drafting forces. Diagrams are given to illustrate these relationships for cotton and viscose staple.

CONE GILL ROVER. Soc. de Constructions Mecaniques. Textile Recorder 75: 76-77 (Mar. 1958). (1174)

In principle, the machine is of the worsted type, originally designed for the processing of the longer manmade fibers above about 75 mm (3 in.) on worsted spinning systems. It has also proved very suitable for a wide range of fibers including wool, goat hair, ramie, etc. Mechanical features and typical processing sequences are described. Photographs. Diagram. Tables.

HOW MUCH TWIST IN ROVING AND YARN? J. Duerst. Textile Inds. 122: 102-104 (Mar. 1958). (1175)

Simplified formulas and nomographs for determining optimum roving and yarn twist under practical conditions are presented. In addition, a table is given showing various roving and yarn twist formulas now in use.

SPINNING, WINDING, TWISTING B 4

YARN TENSIONS AND BALLOON SHAPES IN RING SPINNING. A. E. De Barr (Shirley Inst.). J. Textile Inst. 49: T58-T88 (Feb. 1958). (1176)

An account is given of the physical phenomena involved in ring spinning, and of the factors determining yarn tensions and balloon shapes. The treatment described is applicable to free balloons or to balloons formed between control rings, and enables a semiquantitative description to be given of the way in which yarn tensions and balloon shapes change as the diameter of the package and the height of the balloon change. It is shown that the balloons formed in ring spinning can be regarded as part of a stationary wave system of circularly polarized transverse vibrations on a string. Graphs. Diagrams. 8 references.

NYLON BONDED SPINDLE TAPES. Textiles in Ind. 3: 11, 14 (Jan./Feb. 1958). (1177)

The tape is woven from 100% staple nylon yarn and is subjected to a special heat-stabilizing and stretch treatment immediately after weaving to ensure absolute uniformity and evenness of the finished tape, at the same time reducing the stretch and increasing the flexibility. Tapes are made endless by a special bonding process, which makes use of the thermoplastic properties of nylon. The bonding medium is a thin film (0.005 in. thick) of a low-melting point nylon polymer. The advantages of the tapes are noted. Photographs.

IRREGULARITIES IN COTTON SPINNING. A. Valota. Industrie Textile: 355-357 (May 1957); 435-437 (June 1957). In French. Through BCIRA 37: 579 (1957). (1178)

MULES VERSUS RING FRAMES. Textile Weekly 58(1): 232-233 (Jan. 24, 1958). (1179)

Report of a discussion by the Brit. Assoc. of Managers of Textile Works.

SOME EFFECTS OF SPINNING CONDITIONS ON THE IRREGULARITY OF YARN SPUN ON THE AMBLER SUPERDRAFT SYSTEM. R. Audivert, D. M. Hannah, W. J. Onions, and P. P. Townend (Leeds Univ.). J. Textile Inst. 49: T1-T12 (Jan. 1958). (1180)

An account is given of experiments on a sample Ambler superdraft frame, in which yarns have been spun under varying conditions of draft, roving twist, and setting of the unit, and their irregularities have been measured. Most of the work was done with wool of 64s quality, but some 56s was also used. Tables. Graphs. 3 references.

WINDING DEVICE FOR RING TWISTING MACHINES. R. Struve. Spinner u. Weber 75, No. 11: 567-569 (1957). In German. Through BCIRA 37: 579 (1957). (1181)

The new winding arrangement described (developed by the firm Hagenuk, Kiel) can be used for purely parallel winding (straight bobbins), parallel winding with lengthened or shortened lift on one side (bobbins with upper notch and small disc), parallel winding with displaced lift (tubes), and bi-cone winding with lengthened or shortened lift (exclusively for tubes).

PLATT/JOSEPHY BOX SPINNING FRAME. Platts Bull. 9, No. 5: 128-133 (1958). (1182)

The main advantages of the Platt/Josephy spinning frames are described, and two typical examples showing condenser bobbin requirements for chapon and box spinning frames with equal productions are detailed.

MAGNUM LARGE PACKAGE WOOLEN RING FRAME. Duesberg-Bosson SA. Textile Recorder 75: 74 (Mar. 1958). (1183)

Features of the frame which is suitable for counts up to 10s and is capable of producing packages containing up to about 2-1/4 lb of yarn are described. Photographs.

VIBRATING YARN GUIDE ON SPINNING MACHINES. E. D. Mizonov. Tekstil. Prom. 17, No. 4: 22-26 (1957). In Russian. Through BCIRA 37: 751 (1957). (1184)

Experiments showed that the use of vibrating yarn guides (vibrators) contributes to the reduction of yarn breakages and improvement of the spinning process.

COTTON RING-SPINNING MACHINE, MODEL G4. W. T. Swatek. Z. ges. Textil-Ind. 59, No. 8: 284-287; No. 10: 382-385; No. 12: 474-476 (1957). In German. Through BCIRA 37: 476 (1957). (1185)

The model, described and illustrated, is a high efficiency cotton ring-spinning machine (J. J. Rieter) with movable spindle rail and pneumatic weighting of the top drawing rollers. According to requirements, the driving, drawing, and creeling mechanisms are supplied in several different constructions, and spindle size, ring-diameter, and spindle gauge can be chosen corresponding to the yarn count to be spun.

EFFECTIVE YARN TWIST IN DOUBLING. G. Porsche. Melliand Textilber. 38, No. 6: 610-612 (1957). In German. Through BCIRA 37: 580 (1957). (1186)

The change in the twist of a single thread in yarns, the so-called "effective twist" is explained theoretically, and the optimum effective twist for highest tensile strength and abrasion resistance of the woven or knitted fabric is discussed.

PLATT/BRIGHT TWISTER CABLER. Platts Bull. 9, No. 5: 104-113 (1958). (1187)

See abstr. 3137 (1957). Process flow charts showing stages in the production of rayon tire cord by the conventional method and with the twister cabler are included. Photographs. Graph.

RING TWISTING: NEW METHODS AND TENDENCIES. A. Lang. Melliand Textilber. 38, No. 6: 613-617; No. 7: 749-752 (1957). In German. Through BCIRA 37: 580 (1957). (1188)

The developments in ring twisting machines after the war are reviewed, with special reference to two types of ring spinning machines (with one drive for both machine sides by an electro-motor, and with separate drive and a motor for each machine side) and characteristics of gears, machine frames, spindle drives, creels, electrical equipment, rings, and travelers.

TWISTING. J. Schneider. Rayonne et Fibres Synthet. 13, No. 7: 839-850 (1957). In French. Through BCIRA 37: 580 (1957). (1189)

Reference is made in particular to the production of stretch, high-bulk, and high-twist yarns, and twisting machines (ring twisting, up-twisting, double-twist twisting, and cabling machines) are reviewed.

YARNS B 5

FRICTION AND LUBRICATION OF YARNS. C. Rubenstein (Shirley Inst.). J. Textile Inst. 49: T13-T32 (Jan. 1958). (1190)

In an earlier paper, a general theory of the surface friction of solids was proposed. This theory is used to deduce the relation between the on-going and the off-going tensions in a yarn as it traverses a cylindrical object. Experimental verification of the validity of this relationship has been obtained both with continuous filament yarns and with spun yarns. An experimental investigation of the influence of lubrication and of temperature on the frictional behavior of spun yarns and of the influence of object roughness and running velocity on the frictional behavior of both continuous filament and spun yarns has been conducted. An explanation of the results of this investigation is proposed in terms of the above-mentioned theory. Graphs. Tables. Diagram. 17 references.

SOME PROPERTIES OF WORSTED YARNS SPUN BY THE CONVENTIONAL AND BY THE AMBLER SUPERDRAFT SYSTEMS. R. Audivert, D. M. Hannah, W. J. Onions, and P. P. Townend (Leeds Univ.). (Letter to the editor). J. Textile Inst. 49: T43-T44 (Jan. 1958). (1191)

PRODUCTION OF COARSE YARN. G. Schlese. Spinner u. Weber 75, No. 12: 616-618 (1957). In German. Through BCIRA 37: 580 (1957). (1192)

A machine set consisting of (1) a double-doffer system and a two-card set and (2) a can spinning machine, for spinning coarse yarns (metric count between 0.75 and 4) for the production of polishing cloths, blankets, lining and furnishing materials, carpets, etc., is described; innovations and improvements are noted.

VARIANCE-LENGTH RELATIONS IN A YARN. H. Breny. Reply: M. Hannah and S. Rodden. (Letters to the editor). J. Textile Inst. 49: T48-T52 (Jan. 1958). (1193)

BAN-LON YARN. F. Schulze. Rayonne et Fibres Synthet. 13, No. 5: 637-652 (1957). In French. Through BCIRA 37: 580 (1957). (1194)

All data concerning Ban-Lon yarn are summarized, with reference to publications issued between 1953 and 1957.

BULKED AND CRIMP YARN PRODUCTION. G. Loasby. Textile Weekly 58(1): 591-592 (Feb. 28, 1958). (1195)

The three main types of bulk yarns are reviewed, and the properties that make them particularly good for knitting are discussed.

FABRIC PRODUCTION C

ALUMINA CERAMIC THREAD GUIDES. Lodge Plugs, Ltd. Textile Weekly 58(1): 526 (Feb. 21, 1958). (1196)

The properties of Sintox (sintered aluminum oxide) yarn guides are briefly described. Photograph.

WARPING, SLASHING, YARN PREPARATION C 1

UNIVERSAL WARPING AND BEAMING MACHINE WSU. G. Boigs. Melliand Textilber. 38, No. 7: 757-761 (1957). In German. Through BCIRA 37: 583 (1957). (1197)

General construction and that of individual components of the machine (Maschinenfabrik Jean Güsken, GmbH) are described and its main features and advantages are summarized.

UNIVERSAL BEAMING MACHINE, MODEL EZD. H. Eigenbertz. Melliand Textilber. 38, No. 5: 503-507; No. 6: 618-625 (1957). In German. Through BCIRA 37: 481 (1957). (1198)

Constructional features and mechanism of the machine (W. Schlafhorst & Co.) are described and illustrated. The machine produces hard and soft warp beams, and is claimed to facilitate operation, increase production and quality, and reduce costs.

THREAD GUIDE ELEMENTS ON QUICK TRAVERSE WINDING FRAMES FOR CHEESE WINDING AND YARN DOUBLING. E. Löhmer. Melliand Textilber. 38, No. 7: 752-753 (1957). In German. Through BCIRA 37: 583 (1957). (1199)

Two yarn-guide systems are described: (1) yarn-guide and bobbin drive separate (for low and high thread velocities) and (2) thread-guide and bobbin drive effected simultaneously (for high yarn velocities).

WINDERS FOR WARP YARNS. J. Schneider. Rayonne et Fibres Synthet. 13, No. 6: 725-737 (1957). In French. Through BCIRA 37: 582 (1957). (1200)

Various winding methods are reviewed and descriptions are given of the constructions and mechanisms of the Schweiter Monofil-Coner, especially designed for the treatment of nylon, Perlon, etc., the automatic precision winders Bikomat and Macromat (with six winding heads) produced by G. Sahm, Eschwege, and the Barmag winder, model S15.

HIBBERT A4 MECHANICAL HEADSTOCK. Platts Bull. 9, No. 5: 134-135 (1958). (1201)

On the A4 headstock, which can be adjusted readily to give a constant, predetermined winding tension throughout the whole build-up of the beam, a new type of mechanical drive has been incorporated. This drive will produce a beam with a ratio of bare barrel diameter to full diameter of up to 1:5.5. Two beams with different yarn densities may be wound at the same time. Beams having different bare barrel diameters can be made simultaneously for two types of loom, as long as the bare barrel to full diameter of neither beam exceeds the 1:5.5 ratio. Photographs.

AUTOMATIC HIGH SPEED BOBBIN WINDING MACHINE. Soc. Alsacienne de Constructions Mécaniques. Riv. Tessile 12, No. 8: 779-787 (1957). In Italian. Through BCIRA 37: 753 (1957). (1202)

Detailed description is given of the characteristics and mechanism of the latest model of this machine.

COTTON SIZING. J. Constant. Rev. Textile 56, No. 1: 20-22; No. 2: 81-84; No. 4: 233-237; No. 5: 308-312 (1957). In French. Through BCIRA 37: 583 (1957). (1203)

In these articles, the author discusses the control of sizing machines; creels; selvages; separation of warps; properties of sized yarns (tenacity of sized cotton yarns, elasticity of the threads before and after sizing, and behavior during weaving); the mechanism of warp tension; density and maximum weight of sized warps; passage of the threads and clogging of sizing machines; warp tension on sizing machines.

PREPARATORY MACHINES FOR INDUSTRIES PROCESSING MANMADE FIBERS. J. Schneider. Reyon, Zellwolle u. Chemiefasern No. 4: 261-265; No. 5: 343-355; No. 7: 490-493; No. 8: 561-564 (1957). In German. Through BCIRA 37: 582 (1957). (1204)

In continuation and conclusion of the previous articles (abstr. 3136 and 3159 (1957)), the author reviews false twist twisting machines for the production of crimped yarns, fancy twisting machines, warping machines, and sizing machines (including control devices, such as tension control, bath-level control, etc.).

STUDIES ON TAMARIND SEEDS. PART 1. GREY YARN SIZING WITH TAMARIND KERNEL POWDER. S. G. Bhat (Univ. of Bombay). J. Sci. Ind. Research (India) 16A: 563-566 (Dec. 1957). (1205)

Sizing trials performed on grey yarn sized with tamarind kernel powder (TKP), defatted TKP, washed TKP, and starch indicate that TKP is comparable to starch with respect to increase in tensile strength; only about half the quantity of TKP is required to give the same sizing effect as starch. Defatting is not essential, as the oil naturally present in the powder imparts softness to yarn during weaving or knitting. The use of sodium chlorite and ammonium sulfate under suitable conditions completely desizes yarn sized with TKP with simultaneous bleaching. Table. 7 references.

ZELL WARP SIZING MACHINE. V. Bird. Fibres 19: 55-56 (Feb. 1958). (1206)

The Zell nozzle lever dryer model FT III has a very small drying chamber and an automatic tension regulator. Features of its design are discussed. Photograph.

ACCELERATED CYLINDER DRYING. E. H. Jones. J. Inst. Fuel 30: 506-510 (Sept. 1957). Through BCIRA 37: 754 (1957). (1207)

After outlining the physical process of cylinder drying, the author gives a concise account of experiments carried out at the Shirley Institute on the effect on the drying capacity of applying air currents to the material while it is being dried on the cylinder. This is followed by a description of the Shirley accelerated drying device for the sizing machine.

SCHWABEN REELING MACHINES. Maschinenfabrik Memmingen KG. Textile Merc. 138: 337 (Feb. 28, 1958). (1208)

An outstanding feature of the firm's side-doffing reel Schwaben type 137 is the special automatic coupling of the swifts while the motor remains in operation. Designed for medium or small production, the Schwaben single-sided type 140 machine delivers the yarn from below the swift as opposed to type 137, where the yarn is pulled off the supply package from above the swift. Other features are briefly described. Photograph.

PREPARATORY MACHINES FOR INDUSTRIES PROCESSING MANMADE FIBERS. J. Schneider. Reyon, Zellwolle u. Chemiefasern No. 8: 560-564 (1957). In German. Through BCIRA 37: 754 (1957). (1209)

The author discusses sizing machines (Maschinenfabrik Zell) for continuous filament warps, with particular reference to means for controlling the tension and the sizing process.

SOLID-COP COP WINDING OF COTTON YARN. Centre de Recherches des Industries Textiles de Rouen. Bull. Inst. Textile France No. 67: 45-56 (May 1957). In French. Through BCIRA 37: 582 (1957). (1210)

Two systems of weft winding are compared; in the usual system of pirn winding, the density of the material wound depends only upon the tension to which the thread is subjected while, in solid-cop cop winding the cop is maintained during its formation in contact with a conical shaper-roller whose position is variable according to the desired diameter. The contact pressure is adjustable and permits the packing of more or less of the material to be wound so that, by influencing simultaneously the thread tension and the packing during cop formation, a relatively higher density can be obtained than in pirn winding. The effect of tension and packing on the cop weight, on the mechanical characteristics of the yarns and of fabrics made from them, on the shrinkage during washing and wetting, on the dyeing affinity, and on the appearance of yarn and fabric are discussed.

COMPARATIVE TABLES FOR THE SLOT WIDTH OF YARN CLEARERS. H. Eigenbertz. Melliand Textilber. 38, No. 9: 984-985 (1957). In German. Through BCIRA 37: 753 (1957). (1211)

The nomograms, illustrated and explained, give in their upper part multipliers for multiplying the reciprocals of the roots of the yarn counts to obtain the required slot width of the yarn clearer in mm.

MATERIAL IDENTIFICATION IN THE MILL. Textile Recorder 75: 79 (Feb. 1958). (1212)

The use of the Tickopres A2R (a small electrically driven printing machine which is capable of printing adhesive labels up to 2-3/8 in. x 4-1/2 in. at a speed of 9,000 impressions per hour) for labeling yarn packages is described. Photograph.

STARCH DERIVATIVES. E. King and G. Wood. Textile Inds. 122: 105-106 (Mar. 1958). (1213)

Among the advantages noted for the new chemically modified starches for warp sizing are quicker cooking, more stable viscosities, easier desizing, greater clarity of film, and the ability to use less expensive dyestuffs.

WEAVING C 2

REVIEW OF THE GERMAN LOOM CONSTRUCTIONS. B. Hesse. Spinner u. Weber 75, No. 9: 466; No. 10: 508-509; No. 12: 619; No. 14: 731-732 (1957). In German. Through BCIRA 37: 584 (1957). (1214)

CIRCULAR LOOM FOR HIGH PRESSURE FIRE HOSE. W. Swatek. Melliand Textilber. (English ed.) 39, No. 1: 29-30 (1958). (1215)

Construction and operation of the Hettwer loom are described. Diagrams. Photograph.

SUITABLE SHUTTLE SIZES FOR CIRCULAR BOX LOOMS. M. Zenk. Melliand Textilber. (English ed.) 39, No. 1: 24-29 (1958). (1216)

The adaptation of circular box looms to high capacity shuttles is described. Diagrams.

DORNIER AUTOMATIC LOOM. H. Zippel. Spinner u. Weber 75, No. 11: 570-571 (1957). In German. Through BCIRA 37: 584 (1957). (1217)

Constructional characteristics and mechanism of the loom are briefly described.

SHAFT MOTIONS. PART 2. W. T. Swatek. Melliand Textilber. 38, No. 6: 628-631 (1957). In German. Through BCIRA 37: 584 (1957). (1218)

The dobby of Wolfrum without "driving band" (German patent 236 473) and the two-roller closed-shed dobby (Gaschütz & Fischer) for hard-fiber carpet weaving are described.

ASTRA-UNIVERSAL RW LOOM. H. Fussel. Melliand Textilber. (English ed.) 39, No. 1: 12-20 (1958). (1219)

The RW loom was designed so as to be adaptable for the weaving of different types of fabrics by the use of accessories. Features of the machines and possible modifications are described and illustrated. Photographs.

AUTOMATIC LOOM ATTACHMENT. A. Bernatschek. Melliand Textilber. 38, No. 7: 764-765 (1957). In German. Through BCIRA 37: 584 (1957). (1220)

The new automatic bobbin-changing attachment, type ED3 (marketed by the Hrdina-Webautomaten AG) and its mechanism are described.

SETTING OF LOOMS BY MEANS OF GAUGES. F. Walz and W. Schick. Textil-Praxis 12, No. 9: 890-894 (1957). In German. Through BCIRA 37: 755 (1957). (1221)

The Illset instruments described (developed by the Hungarian Textile Research Institute under the direction of J. Illes) comprise the strain-ratio meter, the shrinkage meter, and the setting gauge. When examined under practical conditions, these instruments made it possible to obtain on several looms the same reduced number of warp breakages, to standardize fabric properties (shrinkage, width, and tensile strength), and to simplify the work of the weaver.

LOW BUILT TWO-SHUTTLE DOUBLE-VELVET LOOM. H. Osswald. Melliand Textilber. (English ed.) 39, No. 1: 10, 12 (1958). (1222)

Construction and operation of the Tonnar SO are described. Photographs. Diagram.

CAUSES OF WEFT BAR FORMATION. K. G. Alekseev. Tekstil. Prom. 17, No. 4: 32-34 (1957). In Russian. Through BCIRA 37: 755 (1957). (1223)

Factors responsible for weft bar formation are discussed and it is concluded that, in order to eliminate this defect, the loom should be constructed so as to compensate for the increase in warp tension during shed formation. In this case, the fabric would assume a fixed position during the whole working cycle.

MODERN NARROW FABRIC LOOMS. A. Thompson. Textile Weekly 58(1): 695-698 (Mar. 7, 1958). (1224)

The factors affecting the efficiency of conventional narrow fabric looms (number of pieces per loom, quill size, beam size) and the advantages and disadvantages of various shuttleless looms (Texnovo, Saurer 60 BG, Sitam, Libby, and Bonas) for narrow fabric weaving are discussed. Photographs.

QUALITY CONTROL: WEAVING OF WOOLENS. L. Bellwood. Wool Rev. 31: 32 (Mar. 1958). (1225)

STRENGTH AND TREATMENT OF WARP YARN FROM DIFFERENT MATERIALS DURING WEAVING. Bull. Inst. Textile France No. 67: 87-101 (May 1957). In French. Through BCIRA 37: 584 (1957). (1226)

The tension to which the yarn is subjected during winding, warping, sizing, and weaving and its effect on the mechanical properties of the yarn are discussed (with reference to the measuring devices available) and control means for reducing the tension on the loom are reviewed. 39 references.

RELATIONSHIPS BETWEEN DYNAMIC WARP TENSION AND LOOM SETTING. M. Zilahi. Textil-Praxis 12, No. 6: 541-547 (1957). In German. Through BCIRA 37: 585 (1957). (1227)

Relationships were established between yarn properties and loom setting (pick density, asymmetry of the shed, static maximum tension) by means of dynamic measurements. From these relationships it is possible to determine the maximum density obtainable, taking into account the yarn properties, i.e. the minimum tension and the maximum stress possible which, at the same time, is also the maximum "characteristic tension."

SHUTTLES FOR MECHANICAL LOOM. PART 2. W. Riesnert. Textil-Praxis 12, No. 5: 461-466 (1957). In German. Through BCIRA 37: 584 (1957). (1228)

Maintenance of the shuttles and setting of the picking motions, such as shuttle box, slay beam, etc., are discussed. (For part 1 see abstr. 64 (1958)).

JUTE AND LINEN WEAVING. PART 3. CHAPTER 8: CENTER OR SPLIT-SELVAGES. W. Haggan. Textile & Cordage Quart. 7, No. 4: 186-189 (1957). (1229)

SYNTHETIC FIBERS FOR JACQUARD HARNESSES. H. Nauen. Melliand Textilber. (English ed.) 39, No. 1: 62, 64 (1958). (1230)

The problems inherent in the use of synthetic fibers for harness cords are critically examined.

HOW TO SET FILLING FEELERS TO MAKE MORE AND BETTER CLOTH. W. C. Westbrook. Textile World 108: 140-141 (Mar. 1958). (1231)

Filling feelers of the midget type need little maintenance if they are set right and left alone. But some parts of the feeler can be altered without tools, and unauthorized persons often make adjustments. The article tells how the feelers should be set and maintained. Diagrams.

KNITTING C 3

POINTERS ON KNITTING RASCHEL LACE. L. E. Licht. Textile World 108: 144-145 (Mar. 1958). (1232)

FF OUTERWEAR: USE OF THE FILLING-IN POINT. R. W. Mills. Hosiery Times 31: 51-52 (Feb. 1958). (1233)

The use of the filling-in point on a straight bar machine is explained. Diagrams.

MANUFACTURE OF BULKY-KNIT OUTERWEAR. J. B. Lancashire. Can. Textile J. 75: 47-48 (Mar. 7, 1958). (1234)

Machinery and operations in the production of bulky-knit outerwear are briefly discussed.

FANCY TRIMMINGS FOR OUTERWEAR. PART 1. ON V-TYPE FLAT MACHINES. J. B. Lancashire. Hosiery Trade J. 65: 72-74 (Feb. 1958). (1235)

INCREASING MACHINE EFFICIENCY IN THE FULL FASHIONED HOSIERY INDUSTRY. F. K. Fogleman (Textile Mach. Works). Can. Textile J. 75: 49-50, 56 (Mar. 7, 1958). (1236)

Reading machine design changes which have resulted in increased efficiency are reviewed. Photographs.

CIRCULAR TWIN-FEED HOSIERY MACHINES. I. R. Thornton. Hosiery Times 31: 59-63 (Feb. 1958). (1237)

The features of the Booton HK and Chell C twin-feed machines are described. Photographs.

LEBOCEY TB57 FANCY BERET MACHINE. Hosiery Trade J. 65: 80, 105 (Feb. 1958). (1238)

Features of the machine are described. Photographs.

BENTLEY-WILDT MODEL RTV8. J. B. Lancashire. Hosiery Trade J. 65: 72-74 (Mar. 1958). (1239)

The RTV8 circular rib machine is designed for the production of stitched-shaped underwear. Its construction is described. Photographs.

NOMOGRAMS IN THE HOSIERY INDUSTRY: ALIGNMENT CHARTS FOR MAKING-UP AND KNITTING CALCULATIONS. Hosiery Trade J. 65: 99-101 (Mar. 1958). (1240)

A procedure of how to construct a nomogram of a simple relationship is explained, and the uses of the alignment charts when prepared are summarized. Diagrams.

SEAMLESS HOSIERY: TRIBULATIONS, TRIALS, AND SUCCESSES. R. Peel (Fidelity Mach. Co.). Can. Textile J. 75: 44-46 (Mar. 7, 1958). (1241)

Developments and problems in seamless hosiery manufacture are outlined.

CIRCULAR HOSE PRODUCTION TECHNIQUES. Bernard Reymes-Cole Ltd. Hosiery Trade J. 65: 96-97 (Feb. 1958). (1242)

In the Reymes-Cole technique for knitting hosiery by rotation (BP 756 841 and 756 861) the heel is shaped either wholly or partly by a boarding process and set to that shape, and in particular, the toe is cut to shape and the edges are seamed together. The inventions include two types of stockings: (1) a stocking in which the heel is fashion shaped in the knitting and completed by boarding, and (2) a stocking in which the heel is wholly shaped by a boarding process. Photographs. Diagram.

LEG-LENGTH VARIATIONS IN FULL-FASHIONED HOSE. PART 2. D. G. Morgan and W. Perkins. Nylon Outlook 1: 18-25 (Winter 1958). (1243)

The means by which the variability and level of stocking leg-length can be controlled within a tolerable range are discussed. Photographs. Diagrams.

MDA2 POWER FLAT MACHINE. Schaffhouse Knitting Mach. Works. Textile Recorder 75: 78, 80 (Mar. 1958). (1244)

Full fashioned outergarments with rib borders are made on the MDA2 machine which has two needle beds of 29-1/2 in., each with its own cam system. Each needle bed is set up to make one body width and one sleeve width rib. Features of the machine are described. Photographs.

WEBER MODEL 3M V-TYPE FLAT MACHINE. Hosiery Trade J. 65: 97-98 (Mar. 1958). (1245)

The Weber model 3M is a single system hand-operated V-type flat knitting machine offered in widths ranging from approximately 28 to 48 in., and in gauges of 5, 7, 10, 12, 14, and 16 needles per in. A unique feature of the machine is a patented capstan which, along with the knitting feeder, forms part of the reciprocating cam carriage. This and other features are described. Photographs.

STIBBE FBW/P MACHINE FOR FLOAT-PLATED FISHNET FABRIC. Hosiery Trade J. 65: 86-87 (Feb. 1958). (1246)

Features and operation of the machine are described. Photographs. Diagram.

ANTI-SNARL DEVICE. Evans, Thompson & Co. Ltd. Textile Weekly 58(1): 552 (Feb. 21, 1958). (1247)

The Universal yarn controller is designed primarily for use with crimp, crepe, and high-bulk yarns, but it will take the snarl out of any type of yarn, with any degree of twist. The device will fit all types of knitting machines, flat or circular. Standard size tubes or cones of yarn can be interchanged on the controller. Its construction and use are described.

ELEMENTS OF KNITWEAR DESIGN: STRIKING VARIATIONS IN SURFACE EFFECTS. W. Davis. Hosiery Times 31: 29-32 (Feb. 1958). (1248)

Striking surface effects are produced in plain or piece-dyed fabrics embellished on the surface by variations in the depth and height of the pattern. The raised effect is produced on two sets of needles, and can be obtained either on circular machines which have plain and rib needles in a cylinder and dial, or on flat knitting machines which have two sets of needles working one set in each of two beds. Various patterns are illustrated and described.

FAULTS IN WARP KNITTED FABRIC. PART 2. DEFECTS OCCURRING IN KNITTING. Hosiery Trade J. 65: 94-97 (Mar. 1958). (1249)

Faults due to deficiencies in the yarn, to incorrect warping, to mechanical defects in the knitting machine, to incorrect threading, to incorrect adjustment, and to several other factors not within the power of the operative to control are discussed. Methods for avoiding them are pointed out.

FABRICS C 4

WOVEN FABRIC STRUCTURE: FANCY DIAGONAL PATTERNS. PART 2. D. C. Snowden. Man-Made Textiles 34: 41 (Mar. 1958). (1250)

Pointers on the fitting of the mat or other fancy weave to the twill base in order to preserve the continuity of the twill lines and avoid unduly long floats are given. Diagrams.

ADVANCED TEXTILE DESIGN. J. C. Hubbard, Jr., and J. V. Walters. School of Textiles, Clemson Agric. Coll., Clemson, S. C. 1957. 80 p. (1251)

This text has been designed primarily as an aid to the student in learning the technical details necessary in producing intricate designs for use in weaving textile fabrics. Illustrations are printed in several colors.

DESIGN IN WOVEN STRUCTURE. PART 68. EFFECTS BY REVERSING THE COLOR PATTERN AT INTERVALS. D. C. Snowden. Wool Rev. 31: 43, 45 (Mar. 1958). (1252)

TROPICAL FABRICS FROM MANMADE FIBERS: RESULTS OF WEAR TESTS. N. Barnabé. Rayonne et Fibres Synthet. 13, No. 9: 1099-1106 (1957). In French. Through BCIRA 37: 777 (1957). (1253)

The data presented were obtained in wear tests, extending over 4 years, on garments made from 25 different fabrics.

PAPER YARN FABRICS. H. G. Füssel and E. Meyer. Spinner u. Weber 75, No. 10: 509-510 (1957). In German. Through BCIRA 37: 585 (1957). (1254)

Shaft- and jacquard-woven fabrics are described.

CONCERNING THE THEORY OF FATIGUE FAILURE IN TEXTILE MATERIALS. W. J. Lyons (Textile Research Inst.). Textile Research J. 28: 127-130 (Feb. 1958). (1255)

A minor modification of the reaction rate theory of flow is proposed with the aim of accounting, in terms of molecular processes, for the observed dependence of dynamic properties, particularly fatigue, on the frequency of stressing. It is shown that with the assumption of a frequency factor there results a general expression which, like earlier expressions, is compatible with the known dependence of fatigue life on temperature and stress under dynamic as well as dead loads. The present development goes further, permitting the derivation of a specific expression which is in accord with the observed frequency dependence of the fatigue life of a textile material. 10 references.

INTRODUCTION TO THE MANUFACTURE OF RIBBONS AND ELASTIC FABRICS. M. De Ketele. Rev. Textilis 13, No. 8: 19-26; No. 9: 115-120 (1957). In Dutch. Through BCIRA 37: 755 (1957). (1256)

EXTENSION OF PEIRCE'S CLOTH GEOMETRY TO THE TREATMENT OF NONCIRCULAR THREADS. A. Kemp (Shirley Inst.). (Letter to the editor). J. Textile Inst. 49: T44-T48 (Jan. 1958). (1257)

HIGH PILE FABRIC KNITTING AND FINISHING REVIEW. Can. Textile J. 75: 51-53 (Mar. 7, 1958). (1258)

Fibers, machinery, knitting, and finishing procedures are briefly described. Photograph. Diagram.

LATEX IMPREGNATION FOR NONWOVEN FABRICS. D. Wilson. Fibres 19: 49-51 (Feb. 1958). (1259)

See abstr. 93 (1958).

ENGINEERING OF NONWOVEN FABRICS FOR SPECIFIC APPLICATIONS. D. V. Probasco (Wellington, Sears Co. Inc.). Textile Bull. 84: 44-45 (Mar. 1958). (1260)

Development of new products by (1) analyzing application; (2) outstripping competition; (3) customer education; and (4) avoidance of misapplication.

PROCESS FOR THE PRODUCTION OF NONWOVEN FABRICS. H. Mauersberger. Textil-Praxis 12, No. 6: 536-541 (1957). In German. Through BCIRA 37: 578 (1957). (1261)

The method consists in stitching the carded webs on a multiple-needle chain stitch machine by means of a series of parallel longitudinal seams, the strength of the material in the warp direction being determined by the sewing thread used and the distance between the seams, and in the weft direction by the fibrous material (position of the fibers and staple length). The product can be used as lining and wadding material.

PRODUCTION OF NONWOVENS BY RANDO-WEB PROCESS. H. H. Langdon. Am. Textile Reptr. 72: 19, 21, 65 (Mar. 20, 1958). (1262)

Before the Rando-Web process and machines, nonwovens were manufactured by felting of certain animal fibers and by the use of cards, garnetts, and cross-lappers or by laminating card webs. A brief description of the product of each of these systems is given, followed by the development of the Rando-Web process and machines. Photograph.

PRODUCTION OF NONWOVEN FABRICS. J. H. Senior (Proctor & Schwartz). Am. Textile Reptr. 72: 31, 33, 60 (Mar. 20, 1958). (1263)

A step-by-step procedure of the Proctor system for nonwoven fabrics, type of machinery used, what it accomplishes, and the method of bonding are explained. Photographs.

NYLON IN TUFTED CARPETS. L. Pownall and W. D. Westhead. Nylon Outlook 1: 26-30 (Winter 1958). (1264)

The results of trials which show that the addition of nylon to a viscose staple tufted yarn has a beneficial effect particularly in abrasion resistance, resilience, and tuft appearance are reported. The basic technique used in the manufacture of tufted carpets is also discussed. Photographs. Graphs.

CONTINUOUS PROCESSING OF POLYURETHANE FOAMS. Brit. Tufting Machy. Ltd. Man-Made Textiles 34: 86 (Mar. 1958). (1265)

The operation of a machine for the processing of flexible polyurethane foam sheeting used on latex-backed tufted carpeting is described.

EFFECT OF FINISHES ON AIR PERMEABILITY OF COTTON FABRICS. M. A. Grimes and C. M. Dillin. J. Home Econ. 50: 187-193 (Mar. 1958). (1266)

Starch, resin, plastic, and CMC finishes were applied to each of 13 fabrics to determine the effect of each finish on air permeability of the fabric. In 89 of 130 comparisons, finishes significantly affected permeability. Fabrics differed in their response to finishes. In 6 of the 13 fabrics, starch increased and in 2 decreased permeability. In half of the fabrics, plastic starch containing CMC increased permeability, and in half it had no effect. Resin finish decreased permeability of 4 and had no effect on 7 fabrics. In 12 of the 13 fabrics, CMC significantly increased permeability. In most cases differences in air permeability of fabric with different finishes can be accounted for by differences in the width of spaces between yarns. An increase in concentration of the finishes resulted, in general, in a decrease of permeability with the exception of CMC and plastic finish containing CMC where the permeability was increased. This confirms the previous conclusion that CMC increases air permeability. Tables.

INSTRUMENTS IN PRODUCTION OF QUALITY FELT. J. W. Gordon (Foxboro Co.). Am. Textile Reptr. 72: 23-27 (Mar. 20, 1958). (1267)

The value of instrumentation in felt making is illustrated by examining the entire process as practiced by Felters Co. Photographs.

DEVELOPMENTS IN CARPET MANUFACTURE. Textile Weekly 58(1): 472, 475 (Feb. 14, 1958). (1268)

Features of the Cobble tufting machine which produces throw rugs in which the patterning is in the form of defined areas of cut and loop pile, and the Spooner double-pass pin tenter for drying the latex backing on needle-loom carpeting are described. Photographs.

MEN'S DRESS. Ciba Rev. 11: 2-34 (Jan. 1958). (1269)

Modern production and finishing of men's suitings, by R. L. Kitchen, p. 2-7; Men's dress from the French Revolution to 1850, by H. Schramm, p. 7-14; Modern fashions for men, by H. Schramm, p. 15-19; Fops and dandies, by H. Schramm, p. 20-23; Evolution of the men's ready-made clothing industry, by H. Schramm, p. 24-33. Photographs. 35 references.

FINISHING AND CHEMICAL PROCESSING D

TECHNICAL MANUAL AND YEARBOOK. v. 33, 1957. Am. Assoc. of Textile Chemists and Colorists, P.O. Box 28, Lowell, Mass. 1957. 569 p. $6.00. (1270)

AATCC organization, committee reports, test methods, bibliography of 1,030 references (with subject index), books (1936-1957), dyestuffs and textile chemical specialties, buyers' guide, membership list.

CHEMICAL PROCESSES D 1

CONTINUOUS PEROXIDE BLEACHING: COST AND DEFECT REDUCTION. H. G. Smolens. Textile Inds. 122: 98-99 (Mar. 1958). (1271)

Causes of holes and weak spots, low brightness, and poor dyeability in cotton bleached by the continuous peroxide steaming process and methods for eliminating these defects are discussed. The most efficient routine is outlined, and it is pointed out that any short cuts in the routing, omission of one or more of the treatments, or inefficiency in any one of them will not only increase the liability of poor work and difficulty of dyeing but will also raise the chemical cost and up the percentage of seconds.

CONTINUOUS OPEN-WIDTH CHLORITE BLEACHING. P. Ferko. Riv. Tessile 12, No. 6: 583-588 (1957). In Italian. Through BCIRA 37: 589 (1957). (1272)

Applicability, chemistry, and technology of the chlorite bleaching process are discussed, with reference to equipment and economical aspects. 13 references.

ANTISTATIC TEXTILE ASSISTANTS. H. Schiedewitz. Deut. Textiltech. 7, No. 5: 315-317 (1957). In German. Through BCIRA 37: 584 (1957). (1273)

The constitution and action of antistatic textile assistants and the occurrence and causes of electrostatic charges are discussed, and an attempt is made to establish a relationship between chemical constitution and antistatic action. The possibilities for the use of antistatic agents during the different working stages are outlined.

NEW BLEACHING CONTROL TECHNIQUES. C. Garrett (Bleachers' Assoc. Ltd). Textile Merc. 138: 333-335 (Feb. 28, 1958). (1274)

The properties of a well-bleached cloth, the importance of fluidity control and pH control, and the factors causing chloramine contamination and pink development are briefly discussed.

DYEING EFFECTS OF OPTICAL BLEACHING AGENTS. F. Weber. Textil-Praxis 12, No. 6: 594-595 (1957). In German. Through BCIRA 37: 589 (1957). (1275)

The optical bleaching effect occurs only in ultraviolet light, i.e. the degree of whiteness is apparent only in daylight and disappears in artificial light. All pastel shades, particularly yellow-sensitive blue and green shades, lose their brightness at night and become dull. There are, at present, no optical bleaching agents whose lightfastness exceeds the value of 3-4. Hardly any data are available on the heat resistance and fastness to sublimation of optical bleaching agents or on their behavior in the presence of organic solvents (carriers). The effect of high temperature dyeing on the optical bleaching agent present on the fiber is also unknown.

COTTON BLEACHING WITH SODIUM CHLORITE. W. C. Braun. Melliand Textilber. 38, No. 9: 1029-1030 (1957). In German. Through BCIRA 37: 758 (1957). (1276)

Chlorite bleaching on the padder and in a closed jig is described (4 methods in each case) and the results are compared. Best results were obtained on the padder by allowing the cloth to pass through the cold chlorite bath, heating it in the steam chamber attached to the padder to 65-75° C, and maintaining it at this temperature for 4-6 hr. In the closed jig, the highest degree of whiteness and removal of husks were obtained by passing the cloth 4 times through the bleaching liquor and leaving it rolled up above the boiling bath for 1 hr, or passing it twice, after cold chlorite treatment, through steam at 70° C and maintaining it at this temperature for 4-6 hr.

CONTINUOUS OPEN-WIDTH SODIUM CHLORITE BLEACHING PLANT. R. B. Vogel. Melliand Textilber. (English ed.) 39, No. 1: 33-40 (1958). (1277)

The Gerber plant consists of an impregnation vat, steamer, thermoreaction chamber, and open-width washing machine. Machine particulars and operation are described. Diagrams. Photographs.

MINIMUM IRON FINISH FOR SPUN RAYON FABRICS. H. A. Wannow. Melliand Textilber. (English ed.) 39, No. 1: 46-50 (1958). (1278)

Good wet crease resistance can be imparted to spun rayon fabrics by giving a finish consisting of three operations: caustic treatment, synthetic resin finish, and afterwash. The three operations are discussed, and consideration is given to the effects obtained by this special finish. Tables. 3 references.

CREASE-RESIST FINISHING OF SPUN VISCOSE SUITINGS. R. Aenishänslin. Ciba Rev. 11: 45-46 (Jan. 1958). (1279)

The main steps in creaseproofing 100% spun viscose and spun viscose/wool are briefly summarized.

EFFECT OF SILICONE SOFTENERS ON RESIN TREATED COTTONS. B. G. Simpson (Dow Corning Corp.). Textile Research J. 28: 170-179 (Feb. 1958). (1280)

A brief discussion is given on the mechanism by which textile softeners produce their effects. Differences in this respect between silicone softeners and the conventional long chain fatty acid types are pointed out, and some of the applications of silicone softeners with respect to cotton are discussed. The results of a study on the effects of silicone and conventional organic softeners on the physical properties of resin treated cottons are given. Several well known types of softeners were included in three typical minimum care resin treatments. Their effects on the tear strength, tensile strength, wrinkle recovery, abrasion resistance, and sewing lubrication were noted, with special reference to laundering durability. The data indicate the silicone softeners increase wrinkle recovery and some of the other physical property values above those imparted by the organics. This increase in efficiency leads to the conclusion that the amount of resin used could be decreased, still giving acceptable wrinkle recovery values and at the same time increasing the rest of the physical property values. Graphs. Tables. 4 references.

NEW FINISHING TECHNIQUES FOR WASH-AND-WEAR COTTONS. J. D. Reid and R. M. Reinhardt. Modern Textiles Mag. 39: 61-68 (Mar. 1958). (1281)

This review includes information on the principal resins and catalysts in use, mechanism of the crease-proofing process, typical application of resins to cotton, quality control, and the problems still to be solved. Tables. Diagram. 27 references.

EFFECT OF SWELLING AGENTS, ESPECIALLY PHENOL, ON POLYAMIDE FIBERS. PART 1. H. Rath and H. Groschopp. Textil-Praxis 12, No. 9: 904-908 (1957). In German. Through BCIRA 37: 760 (1957). (1282)

The possibility of setting polyamide fibers at room temperature by using aqueous phenol solutions as swelling agent was investigated by studying quantitatively the absorption and desorption of phenol, length shrinkage of the fabric strips, and the stress-elongation relationship of threads removed from the fabric. The results are presented graphically and discussed. The degree of setting appears to depend to a great extent upon the reorientation of the polyamide chain, caused by the swelling agent.

SOME PRACTICAL ASPECTS OF THE FIBROUS ACETYLATION OF COTTON YARN. F. Bryant (Univ. of Melbourne). Textile Research J. 28: 180-181 (Feb. 1958). (1283)

Results are given of an investigation undertaken in order to secure a cotton yarn exhibiting an "immunization" to certain specific dyes. With the procedure outlined a complete immunization was achieved. 7 references.

COATING--PRINTING--EMBOSSING. Modern Plastics 35: 116-121 (Apr. 1958). (1284)

A production line for plastic-coating fabrics and applying embossed or printed designs to the coating on webs up to 64 in. wide at rates as high as 150 ft/min is described. Photographs. Diagrams.

ANTISTATIC AGENTS. H. Rath, M. Bühler, and P. Senner. Reyon, Zellwolle u. Chemiefasern No. 8: 549-556 (1957). In German. Through BCIRA 37: 761 (1957). (1285)

Causes leading to static electricity are briefly described and prevention of the charge by antistatic agents is discussed in detail. The relationship between their chemical constitution and antistatic action is elucidated on the basis of experimental results. Substances with interfacial activity are shown to exhibit optimum action because, owing to their arrangement on the fiber surface in an oriented layer parallel to the fiber axis, they form a dielectric shield surrounding the fiber.

PRESERVATION OF TEXTILES WITH PREVENTOL. E. Vogel. SVF Fachorgan Textilveredlung 12, No. 9: 632-633 (1957). In German. Through BCIRA 37: 761 (1957). (1286)

The rot and mildewproofing Preventol products (Farbenfabriken Bayer AG) are highly effective, odorless preserving agents which have no adverse effect on the fiber properties and on the nature and color of textile materials, and can be used for treating textiles exposed to weather, for preserving sizes, finishes, and printing paste thickeners, and for inhibiting the growth of algae in spinning baths and cooling systems. The protective action is improved by an aftertreatment with copper salts.

IMPROVED LIGHT AND WEATHER RESISTANCE OF COTTON RESULTING FROM MERCERIZATION. C. F. Goldthwait and H. M. Robinson (Southern Regional Research Lab.). Textile Research J. 28: 120-126 (Feb. 1958). (1287)

Comparative exposures of mercerized and unmercerized cotton to light and to weathering brought out anomalous effects in the breakdown of cotton cellulose. There was less deterioration of the mercerized cotton, as measured by the ability of the fabric to resist rupture by tension (measured by breaking strength), but at the same time, more degradation (as determined by fluidity measurements), indicating a reduction in average degree of polymerization of the cellulose. The higher retention of strength by the mercerized cotton may represent a significant advantage, because it promises a longer service life of mercerized goods when deterioration occurs mainly from exposure to sunlight. When ordinary unmercerized cotton has lost half strength, corresponding mercerized cotton can be expected to last for 1/4 to 1/3 longer before reaching that level. Tables. 12 references.

REACTIVITY OF KERATIN. R. C. Ghosh, J. R. Holker, and J. B. Speakman (Leeds Univ.). Textile Research J. 28: 112-119 (Feb. 1958). (1288)

The amorphous phase of wool keratin contains and is created by the amino acids with large sidechains. Among the latter are those which are commonly used in cross-linking reactions; since cross-linking is unlikely to have a profound effect on the elastic properties of a disorganized structure unless it occurs with very great frequency, it is now clear why cross-linking with agents such as formaldehyde fails to give desirable technical effects. A more promising method of modifying the properties of wool to commercial advantage is to form graft copolymers in the amorphous phase; possible methods of achieving this end are examined. Tables. 26 references.

PROPERTIES OF PARTIALLY CYANOETHYLATED LINEN FABRICS. M. Zilahi and E. Moczar. Faserforsch. u. Textiltech. 8, No. 5: 192-194 (1957). In German. Through BCIRA 37: 596 (1957). (1289)

It is shown that cyanoethylation improves the properties of flax and hemp and the respective fabrics exhibit increased resistance to heat, rotting, and abrasion.

FINISHING NONWOVEN FABRICS. D. C. Nicely (Chemstrand Corp.). Textile Bull. 84: 43-44 (Mar. 1958). (1290)

Current and future procedures are briefly outlined.

WHAT ARE THE CAUSES OF DAMAGE IN POLYAMIDE FIBERS DURING PEROXIDE BLEACHING. D. Wittig. Deut. Textiltech. 7, No. 5: 312-314 (1957). In German. Through BCIRA 37: 589 (1957). (1291)

It was found that the tendering of polyamide fibers in peroxide bleaching liquors is not caused by the presence of heavy metal salts, and must be assumed to be due to the structure of the fiber itself, in which the carbon amide groups between the methylene groups are possible points of attack. It is also feasible that the oxygen intercalated in the polymerizate causes a change in the structure, resulting in a disturbance of molecular cohesion and, consequently, reduction in strength at a more or less unaffected degree of polymerization.

HIGH VACUUM VAPORIZATION METHOD FOR THE METALLIZATION OF TEXTILES. H. Jörder. Z. ges. Textil-Ind. 59, No. 11: 435-437 (1957). In German. Through BCIRA 37: 490 (1957). (1292)

The installation (developed by W. C. Heraeus) and process described make it possible to metalize all textile materials from natural and synthetic fibers. The metallic gloss of the vaporized layers depends largely upon the type of fiber and weave and density of the fabric. The adhesive power of the layer depends on the hydrophilic character of the particular fiber and pretreatment of the fabric (hydrophobic finishes, etc.). The metal (mainly aluminum, but also copper, silver, gold, etc.) can be applied to one or both sides of the fabric. The properties and uses of the metalized fabrics are discussed.

TEXTILE ASSISTANTS. PART 3. USE AND ROLE OF SURFACE ACTIVE AGENTS IN THE TREATMENT OF COTTON AND WOOL. D. Boido and M. Marester. Rev. Textile 56, No. 1: 36-42 (1957). In French. Through BCIRA 37: 589 (1957). (1293)

The use of various surface-active agents in desizing, scouring, bleaching, and mercerizing of cotton and in degreasing, carbonizing, and oiling of wool is discussed. 16 references.

NEW SYSTEMS AND TECHNIQUES IN PIECE SCOURING. G. Rünger. Melliand Textilber. (English ed.) 39, No. 1: 32, 34 (1958). (1294)

A continuous "non-rope" scouring machine which operates on a completely new principle is described. The principle is the use of inverted bell jars which move up and down in the scouring liquor and intensify the washing effect by alternately sucking and ejecting the liquor. Diagram.

SCOURING OF WOOL/TERYLENE FABRICS. Wool Record 93: 455, 457 (Feb. 20, 1958). (1295)

Removing the combing oil applied to the wool portion of the blend.

SCOURING GREASE WOOLS NEUTRAL. E. C. Hansen (Gen. Aniline & Film Corp.). Am. Dyestuff Reptr. 47: P155-P156, P159 (Mar. 10, 1958). (1296)

The problems involved in scouring raw wool are discussed and recent developments in this field are reviewed. The neutral scouring process for raw wool is based on the use of nonionic detergents. Laboratory tests are presented to show that optimum detergency is exhibited by a nonylphenol base nonionic containing 10.5 mols of ethylene oxide. Several practical plant processes are given for 3-, 4-, and 5-bowl scouring ranges. The neutral-scouring process gives good results for washing both coarse and fine wools. Wools scoured by the neutral process are softer, whiter, and more lofty than wools scoured by conventional alkaline processes. Tables. 7 references.

TENSIONLESS SCOURING MACHINES. E. Pinter. Tinctoria 54, No. 5: 180-185 (1957). In Italian. Through BCIRA 37: 589 (1957). (1297)

Description is given of the construction and mechanism of various continuous installations for tensionless open-width scouring and washing of fabrics suspended in folds.

TEXTILE PROCESSING CHEMICALS. L. D. Berger, Jr. (Union Carbide Chem. Co.). Am. Dyestuff Reptr. 47: P179-P182, P190 (Mar. 24, 1958). (1298)

An analysis of the various categories of textile processing chemicals and their relative economic importance is presented. The future growth of textile processing chemicals is discussed, emphasizing the increasing importance of synthetic organic chemicals to the solution of textile processing problems. Synthetic warp sizes, solvent dyeing processes, and antistatic agents are examples of recent textile processing chemical developments. Graphs. 7 references.

DRYCLEANING AND FABRIC SERVICEABILITY. E. Albinson. Textile Recorder 75: 68-70 (Mar. 1958). (1299)

The processes and operational methods involved in drycleaning are explained, and the possible effects of the solvents and methods used on fibers, finishes, dyes, etc., are discussed. Consumer complaints could be largely eliminated if fabrics were drycleanable or washable and were adequately labeled.

LAUNDERING PROCEDURES IN THE COMMERCIAL LAUNDRY AND IN THE HOME. AATCC Comm. on Dimensional Changes in Textile Fabrics. Am. Dyestuff Reptr. 47: P187-P190 (Mar. 24, 1958). (1300)

The main objective of the Committee on Dimensional Changes in Textile Fabrics is to develop shrinkage tests by which it will be possible to predict the dimensional stability of fabrics under normal conditions of washing. Before developing such tests, the Committee surveyed the methods by which fabrics are laundered under service conditions both in home and commercial laundries, and this paper represents the results of its survey. Tables.

CONTINUOUS DESIZING OF COTTON. W. Graeser. Melliand Textilber. 38, No. 9: 1030-1031 (1957). In German. Through BCIRA 37: 757 (1957). (1301)

The Reactor, a new drum-steamer developed by A. Monforts for the treatment of prints produced by the two-phase printing method, can be used, in combination with a washing machine, for continuous open-width desizing of cotton fabrics. The short period of treatment (it is not necessary to keep the fabric for a long time in a J-box, or in a chamber in rolled-up state) and the intensive enzymatic degradation of the starch are due to the physical properties of the machine in which, between drum surface and the rubber cloth covering it, steam pressure is continuously built up from the moisture of the fabric. Other advantages are simple manipulation and low energy consumption.

ACETAL CELLULOSE REACTANTS. J. B. Irvine and B. H. Kress (Quaker Chem. Prods. Corp.). Textile Research J. 28: 148-158 (Feb. 1958). (1302)

Three types of acetal cellulose reactants for use in resin finishing are discussed. A general description of the nature of their reactions with cellulose is followed by an analysis of the data obtained from the laboratory evaluations of mill processed fabrics. The acetal cellulose reactants are a group of materials which produce non-chlorine retentive dimensional control and a wide variety of hand effects including softness, permanent stiffness, and a range of crease resistances. Tables. 3 references.

DETERMINATION OF PERFORMANCE OF FIBER BLENDS IN WET PROCESSING. R. C. Cheetham and H. D. Edwards (Courtaulds Ltd). J. Soc. Dyers Colourists 74: 77-85 (Feb. 1958). (1303)

The behavior of fiber blends during wet processing such as scouring, milling, and dyeing has been studied with the object of developing laboratory techniques to simulate mill conditions. A method is described for determining the behavior of fibers under pack-dyeing conditions. In the case of fabrics, particular attention has been given to the effect of processing strains on dimensional stability. It has been demonstrated that the temperature-extension curves for fabrics from different acrylic fibers show characteristic points of inflexion. Apparatus for measuring fabric crease recovery in hot liquors is described (in an appendix by J. C. Guthrie), and the information obtained has been used to study rope marking in winch dyeing. Milling has received attention with reference to feltmaking, and an experimental method of evaluation has made use of small-scale machines for carding and milling. Using this technique, the effect of acid liquors of various kinds in felting has been measured. Fabric has also been used in the small-scale milling stocks to obtain the optimum conditions for milling a Fibrolane-wool velour cloth. Graphs. Tables.

DYEING AND PRINTING D 2

NEW NAPHTOL AS COMBINATIONS. W. Gronen. Melliand Textilber. (English ed.) 39, No. 1: 40, 42 (1958). (1304)

Past developments in the field of Naphtol AS dyeing and printing and potential developments which are likely to have beneficial effects on both the level of fastness properties achieved with these dyestuffs and on their methods of application are briefly reviewed.

IMPORTANCE OF INFRARED PROPERTIES OF DYES IN DYEING MILITARY ARTICLES. E. Ganz. Teintex 22, No. 9: 661-673 (1957). In French. Through BCIRA 37: 758 (1957). (1305)

Instruments, based on infrared radiation, for the detection of camouflaged military objects are described, with reference to dyes that are invisible to infrared, camouflage dyeings on cotton, wool, and synthetic fibers, factors affecting the infrared reflectance of textiles, control methods, and standardization of reflectance values required within certain wavelength ranges.

HOW REACTIVE DYES WORK. T. Vickerstaff. Textile World 108: 124-125 (Mar. 1958). (1306)

The Procion dyes are the first really new class of dyes to be discovered in the last 25 years and promise to revolutionize the dyeing of cellulosic fibers. An entirely new principle is employed to produce fast, bright colors that are chemically attached to the cellulose molecule. Theory and practice are discussed briefly.

SOLUTIONS OF THE EQUIPMENT PROBLEM FOR HIGH TEMPERATURE DYEINGS. H. Eberhard. SVF Fachorgan Textilveredlung 12, No. 6: 374-383 (1957). In German. Through BCIRA 37: 591 (1957). (1307)

The development of high temperature dyeing equipment, factors to be considered in its construction, and various types of installations are reviewed.

MICRO-APPARATUS FOR LABORATORY DYEING. F. Peter and B. Mihalik. Textil-Praxis 12, No. 5: 478-479 (1957). In German. Through BCIRA 37: 592 (1957). (1308)

The apparatus can be used for dyeing and other treatments of loose material and yarns (wool, cotton, viscose staple, etc.). It has a capacity of 250 cc and is able to accommodate 10 g of the material at a liquor ratio of at least 1:25. The circulation of the dye liquor in a closed system makes it possible to study continuously changes in the pH and redox potential. By means of a suitable cell construction, polarographic tests can also be made if required. Another advantage of the closed system is the elimination of air in the case of dyeings that are sensitive to oxygen (vat and sulfur dyeings).

BETTER RAYON SKEIN DYEING. L. L. Walmsley (Am. Viscose Corp.). Modern Textiles Mag. 39: 40, 42 (Mar. 1958). (1309)

Recommendations for achieving superior winding properties and level dyeing are given.

PAD DYEING WITH DIRECT DYES. K. Dickmanns. Textil-Praxis 12, No. 6: 592-594 (1957). In German. Through BCIRA 37: 591 (1957). (1310)

Treatment with Glauber salt at 40-50° C (30-40 g/l.) after the passage through the padder is recommended, and several combinations of direct dyes are listed, which give good general fastness properties on mercerized and bleached cotton and delustered viscose rayon, even in the case of subsequent creaseproofing with urea-formaldehyde.

HIGH TEMPERATURE DYEING OF WOVEN AND KNITTED FABRICS. C. Kronsbein. SVF Fachorgan Textilveredlung 12, No. 6: 398-403 (1957). In German. Through BCIRA 37: 592 (1957). (1311)

The mechanisms of various types of high temperature dyeing equipment are reviewed, with special reference to the Colorfix machine (Bellfour GmbH) in which not only dyeing but prewashing and thermofixing of knitted fabrics can be effected. The machine is suitable for dyeing natural as well as manmade fiber articles. According to the fabric weight and structure of the article, 360-2,000 m, i.e. 50-150 kg, can be dyed per charge.

PRESSURE DYEING UNITS FOR PIECE GOODS. H. U. Schmidlin. SVF Fachorgan Textilveredlung 12, No. 6: 384-398 (1957). In German. Through BCIRA 37: 591 (1957). (1312)

Various types of commercially available high temperature dyeing units for piece goods are reviewed, with special reference to the construction, technical details, mechanism, advantages and disadvantages of the Barotor, pressure jigs (Farmer Norton, Benninger, Smith) and beam-dyeing machines (Burlington machine, Colorfix universal high temperature dyeing machine, Clermont-Bonte high temperature autoclave).

DYE JIGGER WITH ELECTRONIC CONTROL. W. Wansleben. Melliand Textilber. (English ed.) 39, No. 1: 44, 46 (1958). (1313)

Features and operation of the Hans Meyer MWE dye jigger are described. Diagrams. Photograph.

THE CH HIGH TEMPERATURE DYEOMETER AND ITS USES. M. Peter. Textil-Rundschau 12, No. 6: 305-316 (1957). In German. Through BCIRA 37: 592 (1957). (1314)

In cooperation with Dr. Hösli, Bischolszell, Ciba developed a laboratory apparatus which makes it possible to dye at temperatures up to 150° C (starting at the maximum temperature) while continuously measuring the dye uptake by means of a colorimeter. The apparatus consists of the dyeometer, a temperature-control device, and the measuring device (galvanometer). The experiments described refer to high temperature dyeing of native and regenerated cellulose fibers.

DYEING OF FILAMENT NYLON WITH ACID DYES. J. A. Bittles, J. A. Brooks, J. J. Iannarone, Jr., and H. P. Landerl (E.I. du Pont de Nemours & Co.). Am. Dyestuff Reptr. 47: P183-P186, P194 (Mar. 24, 1958). (1315)

Four aqueous level-dyeing procedures for applying acid dyes to filament nylon are discussed: solvent-assisted dyeing, cationic agent-assisted dyeing, anionic agent-assisted dyeing, and high-temperature dyeing. All of these procedures have their limitations because only selected dyes can be used. These dyes are not necessarily those which give the best fastness, but they are significantly better than disperse dyes. In most cases the wetfastness is excellent if a suitable after-treatment is used. Tables. Graph. 9 references.

CIBALAN DYES FOR VIGOUREUX PRINTING. Ciba Rev. 11: 43-44 (Jan. 1958). (1316)

SIGNIFICANCE OF DYEING DEVELOPMENTS. T. Vickerstaff. Dyer 119: 317, 318 (Feb. 28, 1958). (1317)

Recent developments in dyeing and pigment printing and their effects on the dyeing industry are briefly reviewed.

EQUILIBRIA ON NYLON OF ANIONIC DYES BASED ON α-NAPHTHYLAMINE→β-NAPHTHOL. H. J. Palmer (Brit. Nylon Spinners Ltd). J. Textile Inst. 49: T33-T39 (Jan. 1958). (1318)

The sorption by nylon at pH values from 3 to 10 of dyes based on α-naphthylamine→β-naphthol, which have different degrees and positions of sulfonation, has been measured. Yarns of different amine end-group contents and with different basic stabilizers have been used. At all pH sorption is directly dependent on amine end-group content. Increase in the degree of sulfonation decreases the number of equivalents of the dye which are sorbed. The characteristics of the pH-dependence of the sorption are related, inter alia, to the basicity of the basic end-group in the yarn and to the potentiometric titration curve of the dye acid. Tables. Graphs. 14 references.

SHADING OF CHROME DYEINGS WITH CIBALAN COLORS. R. Casty. Ciba Rev. 11: 42-43 (Jan. 1958). (1319)

A method of shading in a boiling acid dyebath by using Cibalan dyes in the presence of Cibalan Salt S is described.

RECENT DEVELOPMENTS IN PIECE DYEING. W. Dietrich. Melliand Textilber. (English ed.) 39, No. 1: 42, 44 (1958). (1320)

The binary system for applying vat and sulfur dyes by padding to unbleached cotton piece goods is described. Suitable auxiliaries are mentioned.

CONTINUOUS PIECE DYEING WITH NAPHTHOL AS COMBINATIONS, WITH REFERENCE TO THE PRODUCTION OF DISCHARGE GROUNDS FOR TEXTILE PRINTING. H. Keil. Textil-Praxis 12, No. 9: 912-917 (1957). In German. Through BCIRA 37: 759 (1957). (1321)

The usual method of continuous Naphthol AS dyeing is described and observations made in past years are summarized, with reference to (1) naphtholation of the cloth with the naphthol solution, (2) intermediate drying, (3) development with the diazo solution of a fast dyeing salt or a diazotized fast base, and (4) aftertreatment of the dyeing. The component units of a multipurpose installation for dyeing various articles with Naphthol AS products, as well as Anthrasol, Indanthrene, sulfur, substantive, pigment, etc., dyes are enumerated.

DEVELOPMENT OF CALICO PRINTING. J. G. Hurst. Textile Weekly 58(1): 616-623 (Feb. 28, 1958). (1322)

Present techniques of bleaching, engraving, color mixing, printing, and finishing for calico printed fabrics are reviewed.

PRINTING WITH EMULSIONS. R. D. Greene (Am. Cyanamid Co.). Am. Dyestuff Reptr. 47: P191-P193 (Mar. 24, 1958). (1323)

FUGITIVE TINTING. Textile Weekly 58(1): 551, 559 (Feb. 21, 1958). (1324)

Methods of using the Brumex applicator for identifying fiber mixings are outlined, and recommended dyes are listed.

CHLOROPHYLL CONTAMINATION OF WOOL AND ITS EFFECT ON THE LIGHTFASTNESS OF DYED SHADES. AATCC Continuous Wool Scouring Processes Subcommittee. Am. Dyestuff Reptr. 47: P118-P124 (Feb. 24, 1958). (1325)

Chlorophyll contamination will cause wool dyed in pastel shades to rapidly loose greenness and assume a reddish cast (red fade). A method to determine the presence of troublesome amounts of chlorophyll in the raw wool has been developed and a procedure for removing most of the light-fugitive chlorophyll from the wool during the initial processing steps is outlined. Graphs. Tables. 4 references.

RONGALITE H: STABLE REDUCING AGENT FOR COLORED DISCHARGE PRINTING WITH VAT DYES ON ACETATE. G. Bernardy and H. Wirth. Melliand Textilber. 38, No. 9: 1044-1049 (1957). In German. Through BCIRA 37: 759 (1957). (1326)

The new Rongalite H method described is characterized in that, in contrast to the previous methods based on the formation of vat acids in acid-reacting printing pastes, the discharge printing is effected in weakly alkaline medium, the alkalinity of which is determined by the presence of triethanolamine and is not sufficiently high to cause saponification of the cellulose acetate fiber at the printed places. It is thus possible, with the aid of suitable swelling agents, to use a considerably greater range of vat dyes than before in discharge printing of cellulose acetate fabrics. Since Rongalite H is practically insoluble, it ensures excellent storability of the printing dyes and prevents decomposition of the dried prints before steaming. The fine Rongalite H powder does not damage the printing rollers and stencils. The method can also be used in colored discharge printing of mixed fabrics (e.g. cellulose acetate/cotton).

COLORING TEXTILE MATERIALS WITH PIGMENTS. A. J. Hall. Textile Recorder 75: 70-72 (Mar. 1958). (1327)

In this review of recent British patents covering pigment printing and dyeing methods, the following new developments are discussed: polymer pigment binders with good penetration which prevent undesirable changes in the colored fabrics and promote washfastness and resistance to microbiological attack (BP 768 883); the use of regenerated cellulose pigment binders for increased fastness (BP 776 796); improved pigment binding by the use of ammonium salts in conjunction with styrene-butadiene copolymers (BP 748 880); and pigment binders consisting of water-soluble polymers containing aliphatic amino groups as well as other groups which react with the amino groups by cross-linking (BP 774 101).

CIBACRON DYES IN PRINTING. Ciba Rev. 11: 46-48 (Jan. 1958). (1328)

Preparation of and recipes for pastes for direct printing, as well as drying, steaming, and washing procedures, are outlined.

PRINTING AND PADDING OF FABRICS FROM POLYESTER FIBERS. R. Walter and H. Ilg. Melliand Textilber. 38, No. 9: 1039-1043 (1957). In German. Through BCIRA 37: 759 (1957). (1329)

Direct printing, pad dyeing, and discharge printing of polyester fabrics are discussed, with special reference to vat, triphenylmethane, and basic polymethine dyes and insoluble azo dyes produced on the fiber.

MECHANICAL PROCESSES D 3

FAULTS IN NAPPED COTTON FABRICS. R. Steidl. Melliand Textilber. 38, No. 5: 563-564 (1957). In German. Through BCIRA 37: 500 (1957). (1330)

Causes of napping faults in cotton fabrics, due to (1) the napping machine (type and condition of the machine, especially of the napping wires, setting of the machine), (2) the fabric itself (yarn set, uneven warp tension, weave), and (3) the preparation of the fabric, are discussed.

HEAT SETTING OF MANMADE FIBERS. F. Fourné. Textil-Praxis 12, No. 9: 898-908; No. 10: 1014-1019 (1957). In German. Through BCIRA 37: 760 (1957). (1331)

The principles of thermosetting are discussed, with reference to saturated-steam, infrared, convection, and contact (alternate and unilateral) setting, and the effect of these methods on the properties of nylon, Orlon, Terylene, etc., fibers. Fourteen different machine constructions for setting the fibers and fabrics produced from them are examined as regards the extent to which they fulfil the theoretical stipulations and the degree of setting obtained on them. The results (residual warp and weft shrinkage, creasing angle, feel, dyeing uniformity, and creasing after boiling for 1/2 hr) are tabulated for nylon, Perlon, Orlon, and Terylene fabrics.

APPLICATION OF YARN HAIRINESS MEASUREMENT TECHNIQUES TO THE CONTROL OF GASSING OR SINGEING. A. Barella and M. Ruiz-Cuevas. J. Textile Inst. 49: P4-P8 (Jan. 1958). (1332)

Recently devised instruments are used to determine hairiness, which is discussed here in connection with the efficiency of gassing and subsequent wet processes. Tables. 11 references.

HISTORY AND DEVELOPMENT OF COMPRESSIVE SHRINKAGE. F. V. Davis. J. Soc. Dyers Colourists 74: 8-13 (Jan. 1958). (1333)

An account is given of the origins and development of machines for compressively shrinking cloth, and of the utilization of such machines for special finishing effects. The main emphasis is on the Bradford Dyers Assoc. Ltd machine in its various forms. Diagrams. 7 references.

SETTING NYLON TRICOT BY CONTINUOUS STEAMING. F. Fourne. Textile World 108: 127 (Feb. 1958). (1334)

The performance characteristics of nylon tricot set by intermittent and by continuous steam are compared to show the advantages of the latter method. Diagram. Table.

THERMAL FIXING OF WOVEN AND KNITTED FABRICS FROM MANMADE FIBERS. PART 2. H.-G. Jakob. Reyon, Zellwolle u. Chemiefasern No. 8: 564-569; No. 9: 641-646 (1957). In German. Through BCIRA 37: 760 (1957). (1335)

The author discusses dry heat fixing (contact heat, hot air, infrared, and hot metal baths) and thermofixing within finishing processes (e.g. pleating of woven and knitted fabrics), and control of the fixing effect.

RAISING WARP KNITTED NYLON FABRIC TO GIVE AN UNBROKEN LOOP FINISH. S. Shaw and A. Slade. Nylon Outlook 1: 4-7 (Winter 1958). (1336)

To obtain a satisfactory regular, unbroken, looped pile finish it is necessary to knit a fabric with floats which can be pulled out easily to form loops. A knitting process is described in this article. Details are also given of a finishing technique, based on trials carried out in conjunction with machinery makers and trade finishers. A special raising process has been developed by a Swiss firm, Terlinden. Diagram. Photographs. Swatches.

DRYING D 4

MODERN DRYING TECHNIQUES. Fleissner und Sohn. Textile Merc. 138: 335-336 (Feb. 28, 1958). (1337)

Features of the Fleissner suction drum dryer T2500, two-drum dryer, and chainless hank dryer are reviewed. Photographs.

STEAM CONSUMPTION IN THE CONTINUOUS RECIRCULATORY DRYING OF TEXTILES. F. W. Thomas. J. Inst. Fuel 30: 461-465 (Aug. 1957). Through BCIRA 37: 762 (1957). (1338)

Sources of heat loss in tenters or other continuous recirculatory drying machines are analyzed in order to establish a reasonable target figure for steam consumption in relation to the weight of water evaporated.

IS AUTOMATION IN FABRIC DRYING POSSIBLE? F. Hagen. Z. ges. Textil-Ind. 59, No. 11: 431-432 (1957). In German. Through BCIRA 37: 490 (1957). (1339)

Individual problems that prevent full automation of drying installations are discussed, with special reference to the machine types to be installed, machine efficiency, and automatic control devices.

THIES PRESSURE DRYER. R. S. de Luna. Ingenieria Textil 24, No. 125: 129-132 (Mar./Apr. 1957). In Spanish. Through BCIRA 37: 518 (1957). (1340)

The mechanism, construction, and advantages of the dryer, which can be used in dyeing and bleaching of textile fibers (in the form of cheeses), are described.

PACKAGE DRYING. PART 1. W. C. Dodson. Textile Bull. 84: 67-73 (Mar. 1958). (1341)

The effect of air movement and relative humidity on package drying and how they affect the circulating air and pressure air cabinet type dryers are discussed. Photographs.

FACTORS AFFECTING THE DRYING OF APPAREL FABRICS. PART 1. DRYING BEHAVIOR. R. Steele (Rohm & Haas Co.). Textile Research J. 28: 136-144 (Feb. 1958). (1342)

When apparel fabrics made of various natural and man-made fibers are dried under drip-dry conditions, the usual constant rate and falling rate periods of drying can be observed. The former is normally the longer, and its length is determined largely by the amount of water which is initially picked up by the fabric and must be evaporated. This depends primarily on the fiber content and the thickness of the fabric. With rayon and cotton fabrics it can be controlled to some extent by treatment with aminoplast resins. The critical moisture content, which is the water concentration at the end of the constant rate period, has been found in some cases to depend on the sample size and fabric construction when determined on vertically suspended samples. In these cases, it is not related in a simple way to the regain of the fibers in saturated air, as is sometimes proposed. For hydrophilic fabrics, the whole falling rate period may be characterized by a drying coefficient based on the assumption that the area of free surface evaporation is the rate controlling factor and that this is proportional to the water content. With hydrophobic fabrics, the latter half of the falling rate period is not consistent with this assumption, and the rate becomes somewhat more rapid. Graphs. Tables. 12 references.

FACTORS AFFECTING THE DRYING OF APPAREL FABRICS. PART 2. CAPILLARY SIZE DISTRIBUTION. R. Steele (Rohm & Haas Co.). Textile Research J. 28: 144-147 (Feb. 1958). (1343)

The analytical expression derived from the capillarity equation and the empirical equation describing the water concentration gradient in wet fabrics leads to a characterization of the fabric in terms of a capillary size distribution. The shape of the distribution is approximately log normal. For cotton printcloth the maximum was at a radius of 11.1 microns. For wool flannel and nylon challis, the maxima were 19.3 and 9.3 microns respectively. Graphs. 2 references.

TESTING AND MEASUREMENT E

FIBERS E 1

CRITICAL EXAMINATION OF THE FIBROGRAPH METHOD. J. Lünenschloss. Textil-Praxis 12, No. 9: 860-867 (1957). In German. Through BCIRA 37: 774 (1957). (1344)

Principles of the Fibrograph test (for measuring cotton fiber length and distribution) to which the unreliable results of the method are attributed are discussed. Comparison of various devices can be made by using stencils in the form of the fibrogram of a standard cotton with a certain sample weight.

SUBMERGED CANTILEVER DENSIMETER FOR FIBERS. H. de Vries and H. G. Wiejland (NV Onderzoekingsinstituut Research). (Letter to the editor). Textile Research J. 28: 183-184 (Feb. 1958). (1345)

RAPID ESTIMATION OF SORPTION OF VAPORS BY SINGLE FILAMENTS OF JUTE WITH A SORPTION MICROBALANCE. M. Ramaswamy and R. R. Mukherjee (Indian Jute Mills Assoc. Research Inst.). J. Sci. Ind. Research (India) 16B: 548-554 (Dec. 1957). (1346)

A sorption microbalance for studying the sorption of water vapor by single filaments of jute has been constructed. The balance has been employed for measuring the rates of absorption of water vapor by jute and the equilibrium values attained at different humidities. Studies on the effects of alkali treatment and delignification on the hygroscopicity of the fiber have shown that alkali treatment at higher concentration decreases the moisture affinity of the fiber whereas delignification brings about no change. Graphs. Diagram. 13 references.

SPINNING TESTS. H. W. Little, L. A. Fiori, and J. E. Sands (Southern Regional Research Lab.). Textile Inds. 122: 107-110, 121-127 (Mar. 1958). (1347)

The purpose of a spinning test, methods of planning the test, types of tests, measurements made, statistical techniques, sample size, and interpretation of the results are described. The applications of spinning tests are illustrated by use of examples or case histories. Graphs. Tables. 6 references.

IDENTIFICATION OF UNKNOWN SYNTHETIC FIBERS. S. G. Smith (Security Mills). Am. Dyestuff Reptr. 47: 141-142, 145 (Mar. 10, 1958). (1348)

A method of qualitative analysis is presented for the following synthetic fibers: Dacron, nylon, viscose, acetate, Arnel, Darlan, Acrilan, Creslan, Orlon, Zefran, polyvinyl chloride, alginate, Dynel, Verel, Vicara, and Saran. The method is primarily microscopical, solubilities being used when necessary or desired for further confirmation. In addition to observation of fiber morphology and optical behavior between crossed polarizers, the method involves observation of the direction of movement of the Becke Line and degree of fiber visibility. These observations are made with the sample successively immersed in one or more of four mounting liquids of known refractive index. This makes possible group separations and final confirmatory identification. Accurate determination of a fiber's refractive index is not necessary. A brief discussion of principles involved, experimental manipulation, and equipment necessary precedes the analytical procedure. Accuracy, speed, need of only very small samples, and generally not having to strip dyes are among the advantages of the method. Table of refractive indexes. 7 references.

MEASUREMENT OF DAMAGE IN WOOL MATERIALS. PART 4. MODIFICATION OF THE KRAIS-MARKERT-VIERTEL (KMV) TEST: SUPERCONTRACTION OF KERATIN FIBERS IN SOLUTIONS OF CAUSTIC POTASH. J. W. Bell, D. P. Veldsman, and C. S. Whewell (Leeds Univ.). J. Soc. Dyers Colourists 74: 85-88 (Feb. 1958). (1349)

Dimensional changes of wool fibers when immersed in 20% caustic potash solution instead of ammoniacal potash are studied and data are given showing the effects of various chemical pretreatments on the supercontraction and the time of recovery from supercontraction. Tables. 3 references.

MEASURING COTTON FIBER LENGTH: THE TRUNCATED ARRAY METHOD. F. Carpenter and S. T. Burley, Jr. U.S. Agric. Mktg. Serv., Washington 25, D.C. Mar. 1958. 15 p. Mktg. research report no. 217. Available from Superintendent of Documents, Government Printing Office, Washington, D. C. 15¢. (1350)

This report is a summary of the investigation and evaluation of several techniques and methods for measurement of the length of fibers in a sample of cotton. A shorter technique for measuring length, called the truncated array technique, is described and compared with three other methods, including the customarily used Suter-Webb array method. Tables.

A RAPID TEST FOR CAVITOMIC COTTON. W. H. Martin, F. P. McKenna, and E. L. Word. Inst. of Textile Technol., Charlottesville, Va., Apr. 9, 1958. 6 p. ITT report no. 19. (1351)

A procedure is described that affords a rapid and easy means of detecting cotton raw stock damaged by microbial attack known as "cavitoma." The procedure is based upon measuring the pH of cotton using an indicator that changes color in the pH range associated with cavitomic damage. The measurement is made by spraying the indicator onto a sample of raw stock with an atomizer and noting the color of the solution in contact with the cotton. Table. 5 references.

USE OF AIR CURRENTS FOR TENSIONING FIBERS. S. L. Anderson and R. Stubbs (Wool Inds. Research Assoc.). J. Textile Inst. 49: T53-T57 (Feb. 1958). (1352)

The tension produced in single fibers by allowing one end to project into a tube through which air is drawn is investigated for crimped and straight fibers over the range of fiber diameter 20-50 microns and its relation to air speed and fiber diameter determined. Diagram. Graphs. 2 references.

MEASUREMENT OF THE LONGITUDINAL MODULUS OF NYLON 6.6 MONOFILAMENTS BY BENDING. P. F. Marlow (Brit. Nylon Spinners Ltd). (Letter to the editor). J. Textile Inst. 49: T40-T42 (Jan. 1958). (1353)

Measurements of extension modulus are compared with those of bending modulus, both dynamic, for various draw ratios. Graph. 3 references.

YARNS E 2

APPARATUS FOR THE MEASUREMENT OF THE DELAYED ELONGATION OF TIRE CORDS. J. O. Wood and W. F. Kilby (Dunlop Rubber Co. Ltd). J. Textile Inst. 49: T89-T94 (Feb. 1958). (1354)

An apparatus for the measurement of the delayed elongation of 16 cords under controlled conditions is described. The load is applied simultaneously to each cord by lowering a pivoted load-carrying frame. On completion of this operation a logarithmic clock is automatically set in motion. Pulses from the clock actuate a platen on which pressure-sensitive paper is mounted. Attached rigidly to the lower end of each cord is a stylus which presses against the platen. The extension of the cord is thus recorded each time a pulse is received from the clock. A set of results illustrates the operation of the apparatus. Diagrams. Graphs.

STANDARDIZATION OF THE NEP-COUNTING TECHNIQUE FOR COTTON LINT. C. Nanjundayya, R. L. N. Iyengar, H. Navkal, and S. Rajaraman (Indian Central Cotton Comm.). Indian Textile J. 68: 222-232 (Jan. 1958). (1355)

A preliminary investigation revealed appreciable differences in nep counting due to the preparation of the card, making the nep-counts, and the instruments used for measurement. A standard method was finally worked out and is described. Graphs. Tables. 14 references.

STANDARD METHOD FOR DETERMINING YARN TWIST AND LENGTH CHANGES DURING TWISTING. German Standards Comm. Melliand Textilber. 38, No. 9: 1008-1011 (1957). In German. Through BCIRA 37: 775 (1957). (1356)

The draft specification DIN 53 832 describes the principles of twisting (direction of twist, number of turns, twist coefficient, changes in length due to twisting) and the method for determining the twist in singles and doubled yarns (preparation of samples, number of tests, apparatus, and testing conditions). Evaluation of the results and the data to be included in the test report are specified and calculation examples given.

QUALITY CONTROL TECHNIQUES USING MODERN TESTING EQUIPMENT. W. B. Floyd (Uster Corp.). Can. Textile J. 75: 82-83 (Mar. 7, 1958). (1357)

The steps leading from the development in 1947 of the Uster evenness tester to that of the Uster spectrograph in 1954, as well as the use of the spectrograph, are described.

DEGREE OF CORRELATION BETWEEN IMPERFECTION COUNTER RESULTS AND (A) YARN APPEARANCE GRADE, (B) CARD WEB NEP COUNT. C. V. Wray (Clemson School of Textiles). Bobbin & Beaker 16: 15-25 (Spring 1958). (1358)

A study was made to determine the degree to which the neps, naps, motes, and other common yarn imperfections affect the classifying of yarn samples into the various yarn appearance grades as developed jointly by the American Society for Testing Materials and the U.S. Agricultural Marketing Administration, and the degree that card web nep count per 100 sq in. will indicate the imperfections to be expected in the subsequent yarn. Graphs. Tables. 4 references.

YARN COUNT SYSTEMS AND THEIR CONVERSIONS. Textile Inst. J. Textile Inst. 49: P60-P63 (Feb. 1958). (1359)

Tentative textile standard no. 3a.

DEVICE FOR DETERMINING YARN STIFFNESS. V. M. Rybakova and A. G. Nechaev. Tekstil. Prom. 17, No. 4: 41-43 (1957). In Russian. Through BCIRA 37: 775 (1957). (1360)

The device, described and illustrated, is constructed on the principle of a torsion balance and is suitable for cotton, viscose staple, and polyamide yarn. It was found that cotton yarn (metric count 54) with a stiffness coefficient below 4.5 and above 9 meets the requirements in weaving.

ELECTRONIC FILAMENT COUNTER. W. J. Morris and J. K. Slack. Man-Made Textiles 34: 38-39 (Mar. 1958). (1361)

The principle and operation of an instrument developed in the laboratories of the Brit. Rayon Research Assoc. which will count the number of filaments in continuous filament yarns at rates approaching 200 per hr is described. Photographs. Graph.

SIMULTANEOUS TESTING OF AN AGGREGATE FROM TEXTILE MATERIAL BY MEANS OF THE HARP TESTER. W. Meskat and R. Borges. Faserforsch. u. Textiltech. 8, No. 8: 317-329 (1957). In German. Through BCIRA 37: 776 (1957). (1362)

The statistical quantile theory for simultaneous testing of aggregates of separate parallel textile filaments is applied in particular to the harp tester. Since this theory is valid only for the distribution of elongation and not tensile strength values, an attempt is made to establish a theoretical relationship between these values. These theoretical considerations refer to an ideal apparatus and would require constructional changes in the harp tester to obtain improved measurements and constant winding tension, as well as uniform gripping of the clamps. However, the apparatus in the present form gives results comparable to the single measurements of the Schopper tester, proving its suitability for collective testing under practical conditions.

YARN TENSION AND ITS PROBLEMS. PART 5. J. R. Wright (Uster Corp.). Textile Bull. 84: 66-67 (Mar. 1958). (1363)

Factors affecting yarn tension in warping, slashing, and in the shuttle, and techniques of tension measurement are discussed.

FABRICS E 3

DETECTION AND DETERMINATION OF HARDENABLE RESINS ON CELLULOSE TEXTILES. R. Aenishänslin. SVF Fachorgan Textilveredlung 12, No. 9: 602-612 (1957). In German. Through BCIRA 37: 777 (1957). (1364)

In addition to quantitative determinations of the basic substances (formaldehyde, nitrogen, melamine), the author describes some new qualitative identification reactions for formaldehyde, urea, thiourea, cyclic ethylene urea, and melamine. Preparation of frequently used reagents, bibliography, and a reaction table are included in the addenda. 18 references.

ROTPROOFING OF TEXTILES. E. Higgins. J. Textile Inst. 49: P9-P16 (Jan. 1958). (1365)

The problems arising in the development of a reproducible test method for rotproofing, with emphasis on the peculiar characteristics of bacterial and fungal growth, are discussed.

SKEWNESS OF FABRICS. H. Johansson. Medd. TEFO No. 8: 1-19 (1957). In Swedish. Through BCIRA 37: 777 (1957). (1366)

Causes and measurement of skewness are discussed, with reference to the problems arising from it in the making up industry and tolerance limits.

COMPARISON OF FABRIC TEAR TESTS. R. Steele (Rohm & Haas Co.). Am. Dyestuff Reptr. 47: 143-145 (Mar. 10, 1958). (1367)

Six tests have been compared for measuring tear strength on cotton printcloth and sheeting treated with softeners. The tests were the trapezoid, single-rip tongue, double-rip tongue, Elmendorf, wing rip, and pin methods. To emphasize the characteristic element of tear strength, which is the deformation of the fabric to distribute the applied load over its stress-bearing components, the single-rip tongue test is the most satisfactory. The double-rip tongue and the pin test are second and third choice. The other three tests are much less sensitive to the deformation factor in tear resistance. Table. Graphs. 6 references.

FABRIC DENSOMETER. P. Li (N. C. State Coll.). Textile Forum 15: 6-7 (Dec. 1957). (1368)

The fabric Densometer is an instrument developed in the Knitting Department, North Carolina State College, to measure the density of any type of textile fabric. Cover, sheerness, or opaqueness may be quickly determined and compared. Use of the instrument is briefly described. Photograph.

DESIGN DATA ON BIAXIAL FORCES DEVELOPED IN PARACHUTE FABRICS. J. G. Krizik, E. Victory, J. F. Cheatham, and S. Backer (Mass. Inst. of Technol.). Wright Air Development Center, Wright-Patterson Air Force Base, Ohio, 1957. 87 p. WADC tech. report 57-443. (1369)

A high pressure permeometer was constructed for use with parachute cloths over a differential pressure range of 0.5 to 1000 in. of water. The unit consisted of a compressor, test duct with special biaxial stress jaws, and a steam ejector in series. Operation with variable air densities is possible to simulate high altitude parachute operation. A range of standard and experimental parachute materials was tested on the permeometer and extensive data are available relating air flow, biaxial stress and strain and area increase to pressure differentials across the fabric. Data showing the effect of sample prestressing, cyclic testing, and average air density are included. Tables. Graphs. Diagrams. 8 references.

MECHANICAL PROPERTIES OF THIN POLYETHYLENE FILM. A. A. Anderson and G. L. Morfitt. Modern Plastics 35: 139-148, 222-226 (Apr. 1958). (1370)

An apparatus is described for the determination of the stress-strain characteristics of thin plastic films at elongation rates of 0.03 to 6 in./sec and at temperatures down to -70° C. The effects of temperature and rate of elongation on the stress-strain properties of high-molecular-weight, high-pressure polyethylene film and its heat seals are discussed. Graphs. Tables. 14 references.

CONSISTENCY IN CLOTH INSPECTION. R. G. Newbery. Textile Weekly 58(1): 453-454 (Feb. 14, 1958). (1371)

The most important steps towards ensuring consistent inspection are standardization of inspection conditions (including lighting, cloth speed, and the angle at which the cloth is viewed), and standards of mending and tagging and judging the severity of faults.

EVALUATION OF TEST METHODS FOR FULLED FABRICS. AATCC Northern New England Sect. Am. Dyestuff Reptr. 47: P149-P154 (Mar. 10, 1958). (1372)

A series of test methods was applied to fabrics fulled to different degrees. It was concluded that a test method which would evaluate the quality of a fulled fabric must establish not only the amount of the felting in terms of fiber randomness but also the nature of the distribution of the felted fibers through the thickness of the fulled fabric. The measurements of weight, thickness, compressibility, abrasion, air permeability, fluid flow, and beta-ray penetration vary directly with the total amount of felting, but these parameters were found to be unrelated to the distribution of the felted fibers in the fabric and consequently unrelated to the quality of fulling. Tables. 2 references.

OTHER E 4

EXPERIMENTS FOR THE STANDARDIZATION OF TESTING METHODS FOR TEXTILE ASSISTANTS. PART 13. EXPERIMENTAL EXAMINATION OF SURFACE ACTIVE SUBSTANCES BY THE INDIGO METHOD. K. Hintzmann and W. Langmann. Melliand Textilber. 38, No. 9: 1055-1059 (1957). In German. Through BCIRA 37: 778 (1957). (1373)

The method described makes it possible to measure the dispersing action of textile assistants by colorimetric determination of the colloidally-dispersed portion of an Indigo suspension. The method is explained by two examples, and the functional relationship between dispersed Indigo and the concentration of the dispersing agent is considered theoretically.

COLORIMETRY FOR COLOR CONTROL. PART 3. GRAPHICAL PRESENTATION. R. E. Derby, Jr. Man-Made Textiles 34: 71-73 (Feb. 1958). (1374)

A method of graphical representation for determining color tolerances is explained.

COLORIMETRY FOR COLOR CONTROL. PART 4. TYPICAL PROBLEMS IN PRACTICE. R. E. Derby, Jr. Man-Made Textiles 34: 55 (Mar. 1958). (1375)

The technical problems in color measurement are: speed in measurement, adequate sampling, and preparation of samples for measurement. The use of statistics in avoiding variations due to these problems is emphasized. 4 references.

ANALYSIS OF NONIONIC SURFACTANTS. S. Siggia. Soap Chem. Specialties 34: 51-53, 133 (Mar. 1958). (1376)

A review is presented of the analytical methods and approaches available for identifying and determining nonionic surface active agents. The quantitative methods indicated cover the range from methods to determine traces of nonionics to methods for determining high concentrations. 18 references.

ERRORS IN THE ASSESSMENT OF COLORFASTNESS. G. G. Bradshaw. Reply: U. Bülow and S. Horrdin. (Letters to the editor). J. Soc. Dyers Colourists 74: 88-89 (Feb. 1958). (1377)

See abstr. 3277 (1957).

METHODS OF TESTING TEXTILES: METHOD 22: COLORFASTNESS TO RUBBING (CROCKING). Can. Textile J. 75: 84-85 (Mar. 7, 1958). (1378)

This method is intended for the evaluation of the resistance of the color of textile materials to rubbing off in the dry state or in the presence of moisture or solvent. Such rubbing off of color may result in fading or streaking, and/or staining of other materials. Diagram.

INDUSTRIAL ENGINEERING F

TRAINING IS A PRODUCTION TOOL. R. C. McLeod (Ware Knitters, Inc.). Textile Inds. 122: 140-148 (Mar. 1958). (1379)

Management's role in training, the instructor's responsibilities, instruction breakdowns, instruction techniques, and other phases of a training program are explained. This job instruction method, although used in the training of stitchers, has general application to any textile training program. Photographs.

FLUORESCENT LIGHTING IN THE TEXTILE INDUSTRY. H. Sauer. Melliand Textilber. (English ed.) 39, No. 1: 52-56 (1958). (1380)

The advantages of fluorescent light for overall illumination as well as for certain working or operating positions are discussed with examples. Photographs.

WHAT ARE YOU DOING ABOUT WASTE CONTROL? PART 1. W. Sproule. Textile Bull. 84: 46-49 (Mar. 1958). (1381)

The installation of a good waste control program necessitates a thorough survey of processing methods and conditions in order to establish the best methods of collecting, routing, weighing, classifying, reporting, and establishing standards. Recommendations for making this survey and setting up waste standards are given.

MACHINERY AND MAINTENANCE F 1

MODERN BLOWER PLANT. E. Jacobi. Melliand Textilber. (English ed.) 39, No. 1: 8, 10 (1958). (1382)

Features of the Augusta-Universal monorail blower apparatus are briefly noted. Photographs.

STARTING AND MAINTENANCE OF RANGE DRIVES. C. L. Griffin (Gen. Elec. Co.). Textile Bull. 84: 81-84 (Feb. 1958). (1383)

PRECISE PRESSURE AND FLOW CONTROL MEANS BETTER PRODUCTION. A. G. Arend. Skinner's Silk & Rayon Record 32: 165-166 (Feb. 1958). (1384)

The principles and construction of pressure manometers and flow meters are discussed. Diagrams.

BASIC MOTOR CONTROL CIRCUITS. M. R. Brice. Textile Bull. 84: 73-77 (Mar. 1958). (1385)

TEXTILE MILL OF 1968. R. E. Parker. Textile Inds. 122: 94-97 (Mar. 1958). (1386)

The author surveys the probable applications of automation in spinning, warp preparation, weaving, nonwoven fabric preparation, dyeing, finishing, and printing within the next 10 years. Among the newer innovations mentioned are automatic conveyor systems, electrostatic spinning, and automatic color control in dyeing.

HOW YOU CAN PLAN A LUBRICATION PROGRAM. T. Martin (Union Carbide Nuclear Co.). Textile World 108: 92, 95 (Mar. 1958). (1387)

The keystone services that bridge the gaps between the theory and fact of lubrication are objectives and planning of a program, methods and technical data of procedure, and supervisory control of performance.

MATERIALS HANDLING IN THE TEXTILE INDUSTRY. A. L. Wallwork. Textile Merc. 138: 169-171 (Jan. 31, 1958). (1388)

The economics of materials handling is discussed, and possible applications of the monorail system, overhead cranes, and fork trucks in the textile industry are examined. Photographs.

ATOMS AND ENERGY IN INDUSTRY. PART 1. MILL POWER OF THE FUTURE. C. Moss. Textile Weekly 58(1): 255-256 (Jan. 24, 1958). (1389)

The importance of a nuclear power program as a source of electrical power in Gt. Brit. is explained, and the method by which a power pile operates is described.

TEXTILE MILL USES FOR PRESSURE-SENSITIVE TAPES. M. D. Schantzen (Minnesota Mining & Mfg. Co.). Textile Inds. 122: 115-117 (Mar. 1958). (1390)

Summary of the uses of pressure-sensitive tapes as a production tool in yarn, cloth, apparel, and carpet and rug manufacturing plants as well as in cloth finishing operations.

QUALITY CONTROL F 3

QUALITY CONTROL THROUGH ACCOUNTING EQUIPMENT. J. H. Smith (Liberty Hosiery Mills). Knitter 22: 34-36 (Jan. 1958). (1391)

Describes the use of IBM punched card systems in the control of quality in a knitting mill. The quality information is inserted along with the basic piece work cards, and off-standard quality is recorded against each operation and operator. The IBM tabulating equipment then prepares summaries by style regarding reclaims, reseams, pull-threads, and thirds. A second set of summaries records these defects by operator responsible.

CONSUMER REQUIREMENTS AS THE BASIS OF QUALITY SPECIFICATION. H. W. Best-Gordon. Man-Made Textiles 34: 42-43 (Feb. 1958). (1392)

The following factors are discussed: consumer requirements, end-use classification, performance levels, and standard test procedures. Graphs.

QUALITY CONTROL: WOOLEN SPINNING. Wool Rev. 31: 37 (Feb. 1958). (1393)

End breakage, warping, and weaving are briefly described.

TEXTILE QUALITY CONTROL PAPERS. v. 5, 1958. Am. Soc. for Quality Control, Room 6197 Plankinton Bldg., 161 West Wisconsin Ave., Milwaukee 3, Wis. 1958. 131 p. $5.00. (1394)

What management expects from quality control, by J. C. Martin, p. 1-4; Army quality control and inspection: a new approach to an old problem, by W. Anderson, p. 7-14; What quality control has done for our mills, by L. C. Drye, p. 15-20; Quality control in the garment industry, by R. G. Mitchell, p. 21-33; How the engineer approaches the problem of quality control, by K. V. Chace, p. 34-38; Canadian yarn survey--new approach to causes of count variation, by G. M. Bornet, p. 39-72; Quality control charts, by D. S. Chambers, p. 73-84; Quality assurance to the ultimate consumer in the textile industry, by J. B. Curley, p. 85-89; Fundamentals of quality variation, by K. K. Edgar, p. 90-93; Planning and analyzing experiments to determine the effects of several factors, by R. J. Hader, p. 94-102; The analysis of variance, by M. C. Palmer, p. 103-108; Nonparametric tests, by J. Krol, p. 109-118; Quality control of knitting operations, by H. F. Littleton, p. 119-131.

OTHER F 4

EFFECTS OF NOZZLE SHAPE ON THE CHARACTERISTICS OF AN ATOMIZER. T. Uematu, T. Kano, M. Matuura, and H. Ogawa (Osaka Univ.). J. Textile Machy. Soc. Japan 3: 53-60 (Dec. 1957). (1395)

This article deals with the effects of nozzle shape on the characteristics of an atomizer used for humidity control in a textile factory. The best dimensions of a nozzle tip and a water injection tube, as well as the best atomizing conditions suitable for practical use, are suggested on the basis of the experiments reported. Diagram. Graphs. Photomicrographs.

SCIENCES G

CHEMISTRY G 1

REACTIVITY OF CELLULOSE. A. R. Urquhart (Shirley Inst.). Textile Research J. 28: 159-169 (Feb. 1958). (1396)

This paper discusses the reasons underlying the great differences of reactivity that can be encountered among samples of cellulose that appear to be identical chemically and differ only in physical form or structure. Moisture absorption studies exemplify these differences and build a theory that goes far to explain them in terms of variability of the availability of the reacting groups in the cellulose molecule. Thus purified cotton is in general in a state of low reactivity and regenerated cellulose in one of high reactivity, while mercerized cotton occupies an intermediate position. This picture is for most reactions satisfactory, but in some it is completely reversed, with ordinary cotton having a high reactivity and regenerated cellulose a low, mercerized cotton being again intermediate. The cause of this is discussed in the light of more recent work. Graphs. Table. Diagrams. 34 references.

CHEMICAL ENGINEERING REVIEWS. Ind. Eng. Chem. 50, No. 3, part 2: 421-568 (Mar. 1958). (1397)

13th annual unit operations review: absorption and humidification; adsorption; centrifugation; crystallization; drying; evaporation; flotation; flow of fluids; high temperature distillation; ion exchange; liquid extraction; materials handling; mixing; and size reduction. 6th annual fundamentals of chemical engineering review: heterogeneous catalysis; molecular transport properties of fluids; diffusion in metals; oxidation of metals; colloids and surface behavior; computers, mathematics, and statistics; process control and automation; fluid dynamics; heat transfer; mass transfer; and thermodynamics. References.

STUDIES ON THE SORPTION OF MOISTURE BY POLYMERS. PART 2. THE CELLULOSE-CELLULOSE ACETATE SYSTEM. D. K. Beever and L. Valentine. J. Appl. Chem. 8: 103-107 (Feb. 1958). (1398)

The adsorption isotherms at 22° of water vapor for a series of homogeneously deacetylated cellulose acetates were determined. Plots of the sorption at any relative humidity against the degree of substitution were linear in the range D.S. = 0.6-2.6. Extrapolation of these linear plots to the ordinates at D.S. = 0 or 3 yielded estimates of the adsorption isotherms of amorphous cellulose and amorphous cellulose triacetate. Tables. Graphs. 5 references.

STUDIES ON THE SORPTION OF MOISTURE BY POLYMERS. PART 3. CELLULOSE ACETATE AND CELLULOSE TRIACETATE FIBERS. D. K. Beever and L. Valentine (Leeds Univ.). J. Textile Inst. 49: T95-T103 (Feb. 1958). (1399)

The adsorption isotherms of water vapor on a wide range of commercial secondary cellulose acetate and cellulose triacetate fibers were measured at 22° C. Conversion of cellulose acetate flake into fibers caused a drop in sorption, but otherwise the sorption was almost unaffected by the filament denier, conversion into staple fibers, solution-dyeing, or delustrant. Stretch-spinning, as in the production of Fortanese, altered the shape of the adsorption isotherm to the sigmoidal type. Cellulose triacetate fibers, e.g. Tricel, Arnel, Courpleta, had accessibilities to water vapor of 0.75-0.85. Desorption isotherms were determined for several secondary acetate and triacetate fibers. Graphs. Tables. 7 references.

DEGRADATION OF COTTON DURING MECHANICAL PROCESSING. K. S. Bhujang & C. Nanjundayya (Indian Central Cotton Comm.). J. Sci. Ind. Research (India) 17B: 41-44 (Jan. 1958). (1400)

Degradation due to mechanical processing, in four varieties of Indian cotton, Laxmi, Suyog, Cambodia Co. 4, and Gaorani, was investigated and is compared with the degradation caused by mild alkali boil. Samples tested at different stages of ginning and spinning processes show a measurable amount of degradation which does not appear to be significant compared to the degradation brought about by subsequent wet finishing processes. Tables. 8 references.

SURFACTANTS LISTED: SYNTHETIC DETERGENTS AND EMULSIFIERS UP TO DATE. 4th revision. PART 4. J. W. McCutcheon. Soap Chem. Specialties 34: 58-74 (Mar. 1958). (1401)

PROPERTIES AND FORMATION OF SKIN IN POLYAMIDE 6 FIBERS. K. Schwertassek and L. Plisek. Textil-Praxis 12, No. 9: 874-876 (1957). In German. Through BCIRA 37: 745 (1957). (1402)

Characteristics of the fiber skin and the processes giving rise to its formation (e.g. rapid cooling, during spinning, and hardening of the fiber surface) are described. The fiber skin presents a fiber portion with higher orientation and higher degree of crystallization. Effect of the denier of monofilaments on skin formation is discussed.

ELECTRICAL PROPERTIES OF MODIFIED EPOXY RESINS. J. Delmonte. Modern Plastics 35: 152-156, 229 (Apr. 1958). (1403)

The reaction between epoxy resin, anhydrides, and polyols is examined with particular emphasis upon polyethylene glycols of varying molecular weight. Their influence upon the electrical properties is noted. Graphs. Tables. 2 references.

SILICONES AND THEIR APPLICATIONS. J. Ames (Imp. Chem. Inds. Ltd). J. Sci. Instr. 35: 1-8 (Jan. 1958). (1404)

The characteristics of the polysiloxane chain are described, and their effects on the properties of silicones are discussed. Silicones possess excellent thermal stability over a temperature range of more than 300° C, low surface tension, good electrical properties and a high degree of water-repellency, and are effective as release agents. The mechanical properties of the condensed polysiloxanes are poorer than those of most organic polymers at moderate temperatures, but are markedly superior at extremes of temperature. Silicones are available in the form of fluids, rubbers and resins; the manufacture and properties of each are described, and their special applications are discussed. Tables. 14 references.

SURFACE ACTIVE AGENTS AND DETERGENTS. v. 2. A. M. Schwartz, J. W. Perry, and J. Berch. Interscience Publishers, Inc., New York, N. Y. 1958. 839 p. $17.50. (1405)

This book supplements and extends a previous volume entitled Surface Active Agents: Their Chemistry and Technology. Volume 1 covers the field up to the beginning of 1947 and volume 2 covers developments during the period 1947-56. The material is organized in four parts under the headings: (1) processes for synthesizing and manufacturing surfactants, (2) special function surfactants and compositions, (3) physical and colloidal chemistry of surfactants in theory and practice, and (4) practical applications of surfactants.

WOOL WAX: CHEMISTRY AND TECHNOLOGY. E. V. Truter. Interscience Publishers, Inc., New York, N.Y. 1956. 368 p. $8.75. (1406)

The chemistry and technology of wool wax are discussed under the headings: fleece contents, chemical constitution of wool wax, constitution and uses of suint, some properties of emulsions, recovery of wool wax, saponification of wool wax, isolation and determination of cholesterol, sorting molecules by size and shape, lanostrane derivatives, some steroidal derivatives, Bradford recovery process, and uses of wool wax.

ULTRAVIOLET IRRADIATION AND THE WOOL FIBER EPICUTICLE. A. R. Haly (Wool Textile Research Labs.). (Letter to the editor). Textile Research J. 28: 182-183 (Feb. 1958). (1407)

One of the effects of ultraviolet radiation on wool is to increase the rate of uptake of some dyes. The experimental results reported suggest that in the case of ultraviolet irradiation of wool it is the modification of the epicuticle which is primarily responsible for the accelerated rate of dye uptake. 4 references.

RECENT WORK ON THE MECHANISM OF THE THERMAL DEGRADATION OF CELLULOSE: A REVIEW OF WORK SPONSORED BY THE QMC. R. C. Laible (Quartermaster Research & Eng. Center). Am. Dyestuff Reptr. 47: 173-178 (Mar. 24, 1958). (1408)

Recent research work on the mechanism of the thermal degradation of cellulose is reviewed with emphasis on the practical application of this information. A theory was postulated in which levoglucosan was the important intermediate in the thermal degradation of cellulose responsible for the flaming reaction. Studies of the products of the pyrolysis and combustion of cellulosic materials added credence to the theory. Modified cellulose materials were then prepared which, in accordance with the theoretical predictions, showed significant glow and flame resistance. The studies leading up to this development and the future course of work are reviewed in the light of current requirements for protection against flame and thermal hazards. Tables. Graph. 36 references.

ALPHA-BETA TRANSFORMATION IN KERATIN. A. R. B. Skertchly (Leeds Univ.). (Letter to the editor). Nature 181: 639-640 (Mar. 1, 1958). (1409)

A tentative summary of the salient features of the transformation, the stretching being carried out in water at 50° C, sufficient time being allowed for relaxation to be nearly complete before the x-ray results were obtained. 7 references.

PHYSICS G 2

ELECTROSTATIC CHARGE OF HIGH POLYMERIC SUBSTANCES. A. Sippel. Kolloid Z. 152, No. 1: 41-45 (1957). In German. Through BCIRA 37: 523 (1957). (1410)

A close relationship was found between the tendency of textile fibers to electrostatic charging and their stability to light. The stability to light is characterized by the quotient of the velocity constants for the decreases in strength and degree of polymerization, which take place under the action of ultraviolet light, heat, or x-rays.

APPLICATIONS OF COLOR PHYSICS TO TEXTILES. J. C. Guthrie and P. H. Oliver (Courtaulds Ltd). J. Soc. Dyers Colourists 73: 533-542 (Dec. 1957). (1411)

Both additive and subtractive mixing of colors are discussed, leading to the CIE system of color specification, which is based on three primary colors and additive mixing. Measuring instruments and some types of illuminants are considered. Applications include examples of metameric matches, dichroism, quality control, and some problems in the blending of colored fibers. Graphs. Table. Photographs. 33 references.

EFFECT OF NUCLEAR RADIATION ON FIBROUS MATERIALS. PART 2. DYEING CHARACTERISTICS OF IRRADIATED COTTON AND RAYON. O. Teszler, H. Wiehart, and H. A. Rutherford (School of Textiles, N. C. State Coll.). Textile Research J. 28: 131-135 (Feb. 1958). (1412)

The dye adsorption characteristics of a series of cotton and rayon samples exposed for different periods of time to gamma rays and to thermal neutrons were determined. For this work substantive dyes of known behavior toward degraded celluloses were used. The effect produced in the case of neutrons was twofold. At the early stages and again during the later stages of irradiation, the dye adsorption of the samples was increased; at intermediate exposures the adsorption was decreased. Because hydrolyzed cellulose behaves in the former manner and the acidic type of oxidized cellulose in the latter, the data suggest that neutrons have an effect similar to both hydrolysis and oxidation. Gamma rays (CO^{60}), however, gave only the effect of oxidation. Graphs. 7 references.

CHARGE TRANSFER UPON CONTACT BETWEEN METALS AND INSULATORS. D. O. Van Ostenburg and D. J. Montgomery (Mich. State Univ.). Textile Research J. 28: 22-31 (Jan. 1958). (1413)

Sufficient reproducibility has been attained in recent experiments on static electrification to justify attempts at formulating theoretical explanations of the phenomena observed. In such attempts the process of electrification is broken down into two steps: the attainment of equilibrium charge distribution between the bodies during contact and the counterflow of part of the charge during separation. The present paper is concerned with the calculation of the equilibrium charge transferred upon contact. It is concluded that for phenomena involving contact between metals and insulators, a mechanism for charge transfer based on the band picture of conventional solid-state theory affords at least semi-quantitative agreement with experiment. Additional data will be necessary to see whether strictly quantitative predictions can be made successfully. Diagrams. 7 references.

RADIOACTIVE SOIL FOR TESTING LAUNDERING IN HOME WASHERS. F. Ehrenkranz (Iowa State Coll.). Soap Chem. Specialties 32: 41-42, 197 (Mar. 1956). (1414)

A method using a radioactive compound in a soiling agent for laundering tests in home washers is described. The data obtained by this method are a direct measure of the amount of the soiling agent removed in laundering.

BIOLOGY G 3

DEVICES AND TECHNIQUES FOR USE IN FUNGICIDE TESTING. S. Shapiro (U. S. Army Corps of Engrs.). Am. Dyestuff Reptr. 47: 73-78 (Feb. 10, 1958). (1415)

During the past ten years, thousands of fabric paper and wood samples were treated with hundreds of fungitoxicants. During this period several devices and techniques were developed that proved to be valuable in obtaining more reproducible test results and increased production in certain routine procedures. Some tasks were made less fatiguing and certain operations made more safe. Photographs. Diagram.

MISCELLANY H

1957-1958 REVIEW AND FORECAST. Textile World 108: 81-101, 188-190 (Feb. 1958). (1416)

Economic and production trends, as well as new developments in opening and picking, carding, spinning, winding, spooling, warping, twisting, slashing, weaving, tufting, nonwoven fabrics, woolen and worsted processing, textured yarns, knitting, finishing, engineering, maintenance, and testing are briefly reviewed.

1957 TEXTILE RESEARCH ACHIEVEMENTS. J. B. Goldberg. Modern Textiles Mag. 39: 61-69 (Feb. 1958). (1417)

Summary of world-wide textile research developments during 1957.

HOW TO STUDY CONSUMER SATISFACTION WITH CHILDREN'S CLOTHING MADE OF DIFFERENT TEXTILE FIBERS. E. Jebe, E. Beveridge, G. R. Hawkes, F. Potgieter, and O. Roberson (Iowa State Coll.). J. Home Econ. 50: 213-218 (Mar. 1958). (1418)

This report describes the design features of one study on consumer satisfaction with children's clothing.

THE REASON WHY. J. R. Hall. Nylon Outlook 1: 8-15 (Winter 1958). (1419)

This article discusses attitude and motivation research. The techniques used are described, and the place of motivation research in evaluating new products is discussed. Photographs.

COTTON INDUSTRY: TODAY AND TOMORROW. Official report on the Jubilee Intern. Cotton Congress held at Buxton, England, 13-20 May, 1954. Intern. Fed. of Cotton & Allied Textile Inds., 567 Royal Exchange, Manchester 2, England. 1954. 288 p. (1420)

Papers include: Mechanization in cotton growing, by W. T. Winterbottom and C. R. Sayre, p. 103-112; Use of manmade fibers, by H. Wilkens, p. 149-162; Fifty years of spinning improvements, by H. Windfeld-Hansen, p. 163-173; Technical developments contributing to greater efficiency in weaving, as seen from Switzerland, by E. Honegger, p. 175-205; and Cotton: developments in finishing, by A. Bolgiani, p. 207-246.

COTTON AND CHEMICAL FIBERS: COMPETITION IN JAPAN. B. M. Hornbeck. U.S. Foreign Agric. Serv., Washington, D. C. July 1957. 32 p. Foreign agric. report no. 97. For sale by Superintendent of Documents, Washington 25, D. C. 15¢. (1421)

DICTIONARY OF TEXTILE TERMS: GERMAN-ENGLISH, ENGLISH-GERMAN. M. Polanyi. Pergamon Press Inc., 122 East 55 Street, New York 22, N.Y. 1956. 328 p. $10.00. (1422)

REPORTS ON THE PROGRESS OF APPLIED CHEMISTRY. v. 41, 1956. Soc. of Chem. Ind., 14 Belgrave Square, London, S.W. 1, England, 1956. 795 p. $14.00. (1423)

The following literature reviews are of particular interest to the textile technologist: Cellulose fibers, by W. A. Richardson, p. 366-375; Protein fibers, by J. F. Keggin, p. 376-385; Synthetic fibers, by R. J. D. Smith and others, p. 386-401; Textile finishing, by A. J. Hall, p. 402-408.

PROBLEMS OF THE GARMENT-MAKING INDUSTRY. L. Goode. Textile Weekly 58(1): 519-525 (Feb. 21, 1958). (1424)

In this discussion of the interdependence of the clothing and textile industries, the areas where the textile manufacturer can contribute most to the efficiency of the clothing manufacturer are pointed out.

HUNGARIAN INDUSTRIAL TEXTILE RESEARCH. P. Foldes. Fibres 19: 42-46 (Feb. 1958). (1425)

This brief outline of the aims, work methods, means, and research results of the Hungarian Textile Research Institute mentions an automatic fiber length tester, fiber bundle strength tester, bast fiber torque tester, wear tester for yarn and sewing thread, and an abrasion tester. Photographs. Graph.

REVIEW OF TEXTILE PROGRESS. v. 8, 1956. Textile Inst., 10 Blackfriars St., Manchester 3, England. 1957. 611 p. $6.00. (1426)

Comprehensive summary of advances during 1956 in physics and chemistry of fibers, fiber production, yarn processing, fabric production, dyeing, finishing, testing, laundering and drycleaning, building and engineering, and industrial applications of textiles. A special article is included in this volume: Comparison of the organization of the cotton and rayon industries in Britain and other countries, by D. C. Shaw. Extensive literature references.

A SHORT DICTIONARY OF [HAND] WEAVING. M. E. Pritchard. Philosophical Library, New York, N. Y. 1956. 196 p. $6.00. (1427)

RECOMMENDED DEFINITIONS. Soc. of Dyers & Colourists. J. Soc. Dyers Colourists 74: 40-44 (Jan. 1958). (1428)

Tentative definitions of a number of scientific and technical terms relating to dyeing and finishing.

GERMANY'S TEXTILE INDUSTRY. R. A. Morgan. Textile Inds. 122: 126-130 (Feb. 1958). (1429)

Remarks on personal experiences, observations, and impressions gained by actual contacts during employment in German mills. Mill buildings, supervision, production, waste, machinery, and quality control are briefly discussed. Photographs.

PATENT CHECKLIST

U.S. patents may be obtained from the U.S. Patent Office, Washington, 25, D.C., for 25¢ a copy. Photostatic copies of foreign patents are also available. Charges for these photostats are based on the number of pages in the patent.

FIBERS A

NATURAL FIBERS A 1

BALE PRESS. J. A. Austin and E. Pruitt (to Producers Cotton Oil Co. of Ariz.). USP 2 822 750, Feb. 11, 1958. (1430)

Mechanism for retaining cotton linters being baled in a bale-forming chamber while additional material is being added.

MINERAL FIBER TREATING APPARATUS. J. C. McMullen (to Carborundum Co.). USP 2 825 933, Mar. 11, 1958. (1431)

Separation of unfiberized material from mineral fibers by directing a blast of high velocity gas against a stream of molten material.

MANMADE FIBERS A 2

SETTING WAVES IN PLASTIC FILAMENTS FOR USE IN PAINT OR LIKE BRUSHES. A. S. Leng. BP 781 337, Aug. 21, 1957. Through BCIRA 37: 575 (1957). (1432)

CELLULOSE ACETATE FIBERS. A. S. Smith (to Eastman Kodak Co.). USP 2 825 120, Mar. 4, 1958. (1433)

Dry spinning method and apparatus for producing filaments and fibers of an H-shaped cross section having increased luster, stiffness, and bulk.

YARN PRODUCTION B

MANUFACTURE OF CRIMPED ARTIFICIAL FILAMENTS, YARNS, AND FIBERS. I. Marshall, R. H. Speakman, and R. B. Macleod (to Imp. Chem. Inds. Ltd). BP 780 755, Aug. 7, 1957. Through BCIRA 37: 575 (1957). (1434)

Melt-spun filaments, e.g. of Terylene, are passed at high speed through a pair of toothed wheels.

APPARATUS FOR PRODUCING TUFT LENGTHS FROM CONTINUOUS LENGTHS OF FILAMENT. W. Felton. BP 782 583, Sept. 11, 1957. Through BCIRA 37: 581 (1957). (1435)

PROCESSING MANMADE FIBERS AS WELL AS WASTE OF SUCH FIBERS. Spinnbau GmbH. BP 782 612, Sept. 11, 1957. Through BCIRA 37: 580 (1957). (1436)

The fiber stock is passed through a stretching apparatus and a roller card, and the band of parallelized fiber material is cut into staple.

YARN FINISHING PROCESS. G. McLeavy and H. A. Hargreaves (to Imp. Chem. Inds. Ltd). BP 782 856, Sept. 11, 1957. Through BCIRA 37: 581 (1957). (1437)

Spun yarns from thermoplastic fibers (nylon, Perlon, Terylene) are made smoother by passage through a heated narrow channel that sets the protruding fibers in a flattened position.

FALSE TWIST APPARATUS FOR CRIMPING FILAMENTS. L. Ubbelohde (Germany). BP 783 491, 783 492, and 783 493, Sept. 25, 1957. Through BCIRA 37: 752-753 (1957). (1438)

Continuous filaments of nylon and the like are crimped by means of a temporary false twist inserted while they are hardening in a cooling zone after softening in a zone where they are heated by dielectric, ultrasonic, or infrared devices or by means of hot air or steam. The device comprises a set of twist tubes lying within the bight of an endless belt where it passes over a driving roller. Each tube has a transverse bore that intersects the axial bore near one end. The bundle of filaments is fed into the axial bore, passes through the transverse bore, is wound half a turn around the tube, enters again through the other end of the transverse bore, and is drawn off through the other end of the axial bore.

TOW OPENING DEVICE. G. E. Hayward and G. K. Luggar (to Courtaulds Ltd). USP 2 822 582, Feb. 11, 1958. (1439)

Apparatus for opening a traveling tow of crimped continuous filaments under tension sufficient to straighten out the crimp without stretching the filaments.

TRAVELING CLEANER FOR TEXTILE ROOMS. G. W. Allred. USP 2 823 409, Feb. 18, 1958. (1440)

System in which the blower unit rotates about its axis of support so that a single impeller serves to clean off the ceiling and walls of the room as well as the machines.

WOOL LUBRICANT. H. F. Leupold and C. H. Lighthipe (to Nopco Chem. Co.). USP 2 824 832, Feb. 25, 1958. (1441)

Wool or worsted lubricant consisting of a blend of a condensation product of ethylene oxide and an alkylated phenol, a blown oil, a mineral oil, and a fatty acid or mixture of a fatty acid and a fatty acid ester.

OPENING, PICKING, FIBER PREPARATION B 1

FIBER CLEANER. G. J. Kyame (to U. S. Secretary of Agric.). USP 2 825 097, Mar. 4, 1958. (1442)

The teeth of a beater cylinder pick up fibers from the forward pointing teeth of a rotatable feed roll, mounted parallel to the cylinder, and then comb them through the backward pointing teeth of the same feed roll. This action loosens the fibers and makes it easier to separate the trash from the fibers as they are subsequently buffeted against spaced grid bars adjacent to the cylinder.

BAGASSE DECORTICATION APPARATUS. L. Freeman (to Gruendler Crusher & Pulverizer Co.). USP 2 825 935, Mar. 11, 1958. (1443)

Bagasse fibers are separated from the pith by subjecting the bagasse to a water spray which removes the pith and carries the fibers away for collection.

FIBER FEEDING. J. Fleissner and G. Fleissner (to Fleissner & Sohn Maschinenfabrik). USP 2 825 936, Mar. 11, 1958. (1444)

Feeding mechanism consisting of three conveyor belts, one which picks up and carries the fibers to either of the other two belts, one of which leads directly to the processing machine while the other passes the fibers through a carding mechanism.

CARDING AND COMBING B 2

AUTOMATIC CARD STRIPPER. S. Suzuki (Japan). USP 2 823 423, Feb. 18, 1958. (1445)

Suction nozzle with an opening curved along the circumference of the carding cylinder or doffer and attached to a component moving parallel to the axes of the cylinder and the doffer.

DRAWING AND ROVING B 3

DETECTING AND MEASURING THE FREQUENCY OF PERIODIC VARIATIONS IN THE SPEED OF MOVING SURFACES. H. Catling (to Brit. Cotton Ind. Research Assoc.). BP 781 463, Aug. 21, 1957. Through BCIRA 37: 581 (1957). (1446)

The instrument, which incorporates reeds of known natural frequency, may be used for detecting torsional vibrations in the rollers of speed frames, etc.

DEVICE FOR HOLDING TOGETHER BOTTOM ROLLERS OF DRAWING FRAMES. A. Schussler (to VEB Spinnereimaschinenbau). BP 781 746, Aug. 21, 1957. Through BCIRA 37: 581 (1957). (1447)

SPINNING, WINDING, TWISTING B 4

THREAD GUIDE ASSEMBLIES FOR CENTRIFUGAL CAN FLAX SPINNING FRAMES. A. Gardello and C. Gardello (Italy). BP 780 694, Aug. 7, 1957. Through BCIRA 37: 581 (1957). (1448)

THREAD ILLUMINATOR. C. O. Meiners, H. W. Lessing, and W. B. Lessing (to Meiners Optical Devices Ltd). BP 781 458, Aug. 21, 1957. Through BCIRA 37: 581 (1957). (1449)

Beam of light projected along the length of a spinning or twisting frame, illuminates the threads, and enables breaks to be rapidly detected.

SPINDLE MOUNTING FOR BOBBIN. Perlinger & Richter Primatex. BP 781 942, Aug. 28, 1957. Through BCIRA 37: 581 (1957). (1450)

Weights are arranged inside two sleeves of resilient material on the spindle. Vibrations are reduced and steady running of the spindle is achieved at high speeds.

THREAD GUIDES FOR FLYER SPINNING AND TWISTING MACHINES. O. A. Bowes (to Fleming Reid & Co. Ltd). BP 782 152, Sept. 4, 1957. Through BCIRA 37: 581 (1957). (1451)

DOUBLE TWISTER. H. Pollard. BP 782 176, Sept. 4, 1957. Through BCIRA 37: 581 (1957). (1452)

CAP SPINNING OR TWISTING DEVICE FOR TEXTILE SPINNING OR TWISTING MACHINES. H. Hadlich (to VEB Spinn-und Zwirnereimaschinenbau). BP 782 600, Sept. 11, 1957. Through BCIRA 37: 581 (1957). (1453)

CENTRIFUGAL SPINNING AND WINDING DEVICE. C. Pujol (Spain). BP 782 614, Sept. 11, 1957. Through BCIRA 37: 581 (1957). (1454)

SPINDLE DRIVE FOR SPINNING AND TWISTING FRAMES. SKF Kugellagerfabriken GmbH. BP 783 935, Oct. 2, 1957. Through BCIRA 37: 752 (1957). (1455)

Each spindle wharve is driven by a separate wheel through an intermediate wheel the axis of which is parallel to that of the spindle and which is pressed into contact with the driving wheel and the wharve.

OILING SYSTEM FOR RING SPINNING MACHINE. W. S. Robson and K. Ward (to Fairbairn Lawson Combe Barbour Ltd). BP 785 124, Oct. 23, 1957. Through BCIRA 37: 752 (1957). (1456)

Oil channel fixed along the ring rail by jet screws that lead to the individual ring positions.

MACHINE FOR SUPPORTING AND ROTATING SPINNING RINGS. A. R. Meadors, Jr. USP 2 823 408, Feb. 18, 1958. (1457)

Machine for holding and engaging the ring in such a way that it is freely accessible for cleaning and polishing.

BEARINGS FOR A WINDING AND TWISTING SPINDLE. F. Scragg (to S. & E. Scragg Ltd). BP 784 242, Oct. 9, 1957. (Addition to BP 743 751). Through BCIRA 37: 752 (1957). (1458)

The parent invention (see abstr. 238 (1957)) related to a spindle sleeve held by its lower end in a cup at the end of an arm and having a damping washer between the sleeve and cup. The present invention covers an adjustable washer of oil-resistant rubber disposed between an outer ring secured to the cup and an inner ring that grips the sleeve and can be moved on it to alter the tension in the washer.

LUBRICATING SINTERED METAL SPINNING AND TWISTING RINGS. A. J. Wayson (to Merriman Bros.). USP 2 824 417, Feb. 25, 1958. (1459)

Oil reservoir whose transparent leakproof cover, which permits visual inspection of oil supply, is equipped with an oil supply valve opening.

ATTACHING YARN END TO A BOBBIN. F. W. Higgins (to Universal Winding Co.). USP 2 824 708, Feb. 25, 1958. (1460)

Teeth or prongs attached to the head of a bobbin for catching and holding a yarn end for winding.

MOUNTING FOR SUCTION TUBE AND CLEARER IN SPINNING MACHINES. F. Krähschütz (to Thoma Co. GmbH). USP 2 825 198, Mar. 4, 1958. (1461)

Device which permits a simple mounting of the suction tube on existing spinning frames, and an easy removal and reinsertion of the clearer rollers for cleaning without stopping the spinning operation.

FALSE TWIST SPINDLE. G. M. Boullion (to Do-All Metal Prods. Co.). USP 2 825 200, Mar. 4, 1958. (1462)

High speed false twist spindle for producing nylon stretch yarn.

GLASS FIBER MULTIFILAMENT WINDING APPARATUS. R. G. Russell (to Owens-Corning Fiberglas Corp.). USP 2 826 293, Mar. 11, 1958. (1463)

YARNS B 5

PRODUCING COMPOSITE YARNS. Rhodiatoce SpA. BP 784 840, Oct. 16, 1957. Through BCIRA 37: 753 (1957). (1464)

Two or more nontwisted or low twisted continuous filament yarns, differing in color, luster, or chemical composition, are doubled and twisted together so as to produce a variegated yarn.

APPARATUS FOR BULKING YARN. D. G. Soussloff, E. J. Duggan, and T. A. Whiting (to Universal Winding Co.). USP 2 825 118, Mar. 4, 1958. (1465)

Apparatus for forming loops in the individual strands making up a strand of twisted continuous filament yarn, stretching the bulked strand, and winding it into a package in one continuous operation.

SEWING THREAD SPOOLS. A. C. Letarte. BP 781 034, Aug. 14, 1957. Through BCIRA 37: 586 (1957). (1466)

CORE YARNS. O. R. Simek (to Olympia Corduroy Ltd). BP 781 344, Aug. 21, 1957. Through BCIRA 37: 582 (1957). (1467)

Composite multi-core yarn is described, comprising at least two yarns each consisting of a continuous filament (e.g. nylon) core and a wrapping of drafted staple fibers (e.g. cotton). Fabrics of improved strength are claimed.

WEFTLESS TAPE. G. B. May (to P. P. Payne & Sons Ltd). BP 781 468, Aug. 21, 1957. Through BCIRA 37: 582 (1957). (1468)

Strands of yarn are bonded together with a coating of heat-sealing adhesive.

ARTIFICIAL CATGUT. A. S. Bell (to Brit. Celanese Ltd). BP 784 519, Oct. 9, 1957. Through BCIRA 37: 753 (1957). (1469)

An artificial catgut (for tennis racquet strings, etc.) comprises a core of high tenacity saponified celluiose acetate yarn, preferably braided with nylon yarn, and coated with a flexible, waterproof film, e.g. of a linear polymer or copolymer of the polyvinyl group.

FABRIC PRODUCTION C

WARPING, SLASHING, YARN PREPARATION C 1

THREAD TENSIONING DEVICES. NV Onderzoekingsinstituut Research. BP 780 771, Aug. 7, 1957. Through BCIRA 37: 586 (1957). (1470)

The thread takes a zig-zag path between the tensioning elements, which may move relatively in the direction of movement of the thread as well as in the direction that determines their meshing.

WARPING CREELS. F. Holt and G. Lee (to Thomas Holt Ltd). BP 780 840, Aug. 7, 1957. Through BCIRA 37: 586 (1957). (1471)

The creel described takes up less floor space than a conventional warping creel of equal holding capacity and is equally advantageous for use as a single end creel, with reserve packages for pattern work or ordinary work, and as a magazine creel.

YARN WARP BEAMS. A. Slade (to Brit. Nylon Spinners Ltd). BP 781 101, Aug. 14, 1957. Through BCIRA 37: 586 (1957). (1472)

The trailing ends of yarn are passed round a wrapper surrounding the remainder of the yarn and there is an outer wrapper incorporating a tearing cord. Disarrangement and damage during transport and handling are thereby avoided.

DENTS FOR EXPANDING COMBS FOR BEAMING AND SIMILAR MACHINES. W. H. Barker. BP 782 208, Sept. 4, 1957. Through BCIRA 37: 586 (1957). (1473)

MEASURING AND REGULATING DIFFERENCES IN SPEED. Gebrüder Sucker GmbH. BP 781 268 and 781 269, Aug. 14, 1957. Through BCIRA 37: 587 (1957). (1474)

The apparatus is applicable to sizing and drying processes in which the textile material passes over rollers in front of and behind the treatment position. Deviation in the speed ratio of the rollers is used to return the rollers automatically to the required speeds and control the expansion or shrinkage in the material.

REDUCING THE WRINGING PRESSURE IN WARP SIZING MACHINES. E. Kenk (Germany). BP 781 324, Aug. 21, 1957. Through BCIRA 37: 586 (1957). (1475)

Fluid-pressure actuated device exerts a force in opposition to the weight of the wringing roller and is brought into and out of operation by the change of speed of the machine.

WARPING MACHINE. W. Bonnell (to Courtaulds Ltd). BP 782 199, Sept. 4, 1957. Through BCIRA 37: 586 (1957). (1476)

Speed controller and differential gear mechanism for the driving mechanism rotating the beam in a cascade warping machine are described; constant speed of takeup of warp threads is maintained.

UNTWISTING OF HELICALLY TWISTED FIBER ROPES. G. Plüss (Germany). BP 783 535, Sept. 25, 1957. Through BCIRA 37: 756 (1957). (1477)

Device for untwisting a helically-twisted rope of upholstery material so as to release the individual fibers for their intended use. The rope is fed to a rotating device that untwists it and variations in diameter and length of the helical turns are controlled by feeding the rope through a helical spring rotating at a predetermined speed in constant relation to the speed of the untwisting device.

WINDING MACHINES FOR YARN. H. Fraser (to Douglas Fraser & Sons Ltd). BP 784 532, Oct. 9, 1957. Through BCIRA 37: 756 (1957). (1478)

Means for covering the cradles used in winding machines of the type in which the packages are carried by cradles and wound by surface contact with driving rollers. The controlling mechanisms for the cradles are arranged in groups of at least two, and each group is covered by a shroud of inverted channel form common to the group.

SLASHER CREEL BRAKE. G. L. Ball (to Batson-Cook Co.). USP 2 822 603, Feb. 11, 1958. (1479)

Brake mechanism for applying a varying brake torque automatically, i.e. a low braking torque while the slasher is running and a full braking torque when the slasher is stopped.

WARPING MACHINES. A. W. H. Porter, W. C. Arnold, and A. Robertson (to F. N. F. Machy. Mfg. Co. Ltd). USP 2 822 604, Feb. 11, 1958. (1480)

Brake mechanism which controls the yarn tension rollers as well as bringing the rollers to a stop when necessary.

WARPING MACHINE STOP MOTION. R. D. Heffelfinger and W. P. Crawley (to Am. Viscose Corp.). USP 2 825 119, Mar. 4, 1958. (1481)

Stop motion which stops a machine under conditions of either excess or insufficient tension in any of the warp ends.

NYLON SIZING. H. B. Rickert, K. B. Bozer, R. S. Montgomery, and M. W. Duke (to Dow Chem. Co.). USP 2 826 515, Mar. 11, 1958. (1482)

Plastified films of coal acid compounds, which are the products of coal oxidation, are claimed as sizing agents for nylon.

WEAVING C 2

LAY FOR RIBBON-MAKING LOOMS OF THE AUTOMATIC SHUTTLE-CHANGING TYPE. G. M. V. J. Choupin (France). BP 780 750, Aug. 7, 1957. Through BCIRA 37: 587 (1957). (1483)

SHUTTLELESS LOOM. Sulzer Freres SA. BP 781 190, Aug. 14, 1957. Through BCIRA 37: 587 (1957). (1484)

The invention relates to weft selection and insertion and describes weft-tensioning devices, for keeping the weft taut, and weft takeup devices, for taking up the slack, each with common driving members, and a control element.

MANUFACTURING GLASS FABRIC. Algemeene Kunstvezel Maatschappij Naamlooze Venootschap. BP 781 191, Aug. 14, 1957. Through BCIRA 37: 587 (1957). (1485)

Fabric from monofilament yarns, e.g. glass, is sized at the loom, between beatup and the cloth roller, to prevent distortion and fraying.

LOOSE REED LOOMS. E. Baumgartner-Rieser. BP 781 345, Aug. 21, 1957. Through BCIRA 37: 587 (1957). (1486)

Means for suspending the reed on the lay, which makes possible the use of fine reeds.

THREAD CLAMPING DEVICES FOR WEFT REPLENISHING LOOMS. W. V. Gledhill and A. Chappell. BP 781 991, Aug. 28, 1957. Through BCIRA 37: 587 (1957). (1487)

The device is for opening the jaws of the thread gripper that moves back at each bobbin change; it makes use of a pivoted and spring-loaded arm.

WEFT INSERTER FOR SHUTTLELESS LOOMS. M. Claeys (France). BP 783 698, Sept. 25, 1957. Through BCIRA 37: 756 (1957). (1488)

The device comprises an elongated body (the end portions of which are ogival in cross-section) having two members which cooperate to form a lengthwise slot that receives a length of weft at beatup and retains it during the return movement of the lay, one of the members at least having the appropriate shape.

SHUTTLE THREADING DEVICE. A. Honegger and O. Honegger (Switzerland). BP 784 180, Oct. 2, 1957. Through BCIRA 37: 756 (1957). (1489)

Two brake shoes for receiving weft between them are located between the ends of a guiding channel in the threading member. Each shoe is arranged with clearance on either side between abutments of hard material formed by the legs of a U-shaped insert fitted into the guiding channel.

APPARATUS FOR DETECTING MISSED PICKS. W. H. Tough (to Scott & Fyfe Ltd). BP 784 654, Oct. 16, 1957. Through BCIRA 37: 756 (1957). (1490)

Apparatus for detecting missed picks at the loom comprises a supporting plate fixed to the loom frame and carrying two spring-urged electrical contacts, one of which has a feeler that bears against the cloth, the other being a pin that projects from the plate.

LOOM PARALLEL MECHANISM. C. G. Moon and J. M. Budzyna (to Draper Corp.). USP 2 822 827, Feb. 11, 1958. (1491)

Combined rubber bumper or shock absorbing pad and spring system for preventing the parallel shoe and picker stick from jumping away from the parallel stand as the stick is picked.

CHECK STRAP FOR PICKER STICK. J. C. Crocker. USP 2 822 828, Feb. 11, 1958. (1492)

Leather check strap with an insert of synthetic textile material, e.g. nylon, for withstanding the abrasive action to which the check strap is subjected.

PILE CARPET WOVEN WITH WIRE VARIATIONS. J. H. Harding (to C. H. Masland & Sons). USP 2 822 829, Feb. 11, 1958. (1493)

Method of weaving pile of different characters using a jacquard mechanism for pattern changes on a single pile frame.

WEFT COMPRESSION WHEEL FOR CIRCULAR LOOMS. J. Rabeux and B. Masson (to Soc. d'Applications Gen. d'Elect. & de Mecanique). USP 2 823 704, Feb. 18, 1958. (1494)

Rotating wheel, with a series of rigid, curved blades of flat cross-section which eliminate yarn breakage and prevents injury to the operator's hands.

LOOM TEMPLE MECHANISM. H. J. Parham. USP 2 823 706, Feb. 18, 1958. (1495)

Positively driven temple which minimizes stresses on the warp and weft threads and eliminates lag-back, need for weaving or sewing a special selvage, and bowing or sagging of the cloth.

WEFT FORK GRATE CLEANER. C. M. Culpepper and J. Culpepper. USP 2 823 708, Feb. 18, 1958. (1496)

Cleaner for removing loose threads or lint from the grate on each oscillation of the lay to a position most remote from the beatup position.

SHUTTLE. M. E. Heard (to West Point Mfg. Co.). USP 2 824 581, Feb. 25, 1958. (1497)

Shuttle end blocks composed of laminated plastic reinforced with parallel layers of nonwoven fabric.

PNEUMATIC TEMPLE THREAD CUTTER. H. N. Thibault (to Draper Corp.). USP 2 825 367, Mar. 4, 1958. (1498)

CARPET LOOM PILE WIRE. J. L. Hubbard (to Firth Carpet Co.). USP 2 826 223, Mar. 11, 1958. (1499)

Pile wire combined with a pattern profile element so that the same wire can be used repeatedly for different patterns.

AXMINSTER CARPET LOOM NEEDLE. H. F. Jamrogowicz (to Bigelow-Sanford Carpet Co.). USP 2 826 224, Mar. 11, 1958. (1500)

Weft insertion needle for inserting chenille as well as conventional weft material.

KNITTING C 3

WINDING-ON MECHANISM FOR LACE MACHINES. F. H. Haslam-Jones (to John Jardine Ltd). BP 780 579, Aug. 7, 1957. Through BCIRA 37: 588 (1957). (1501)

SUPPORT FOR YARN PACKAGES IN FULL-FASHIONED HOSIERY MACHINE. W. Perkins (to Brit. Nylon Spinners Ltd). BP 782 419, Sept. 4, 1957. Through BCIRA 37: 588 (1957). (1502)

JACK TYPE PATTERN WHEEL FOR CIRCULAR KNITTING MACHINES. J. Lipsey (to Jay Co.). USP 2 822 678, Feb. 11, 1958. (1503)

Pattern wheel in which damaged or worn jacks or slots may be individually replaced.

FLAT KNITTING MACHINE YARN GUIDES. P. J. Schoenster (to Alfred Hofmann & Co.). USP 2 822 679, Feb. 11, 1958. (1504)

Yarn guide which permits the yarn to move in a continuous, rectilinear path without angular deviation, thus eliminating wear of the guide and reducing the formation of fuzzballs or yarn clots in the moving yarn.

NEEDLE BAR ASSEMBLY FOR FLATBED FULL-FASHIONED KNITTING MACHINE. F. G. Weisbecker. USP 2 823 528, Feb. 18, 1958. (1505)

Needle bar assembly in which the needles are mounted for movement independently of one another.

CAM ASSEMBLY FOR CIRCULAR KNITTING MACHINES. P. L. St. Pierre and J. Warzonek (to Hemphill Co.). USP 2 823 529, Feb. 18, 1958. (1506)

Pivoted cam support which facilitates and reduces the number of operations in cam adjustments.

INTERMEDIATE CONNECTING AND SUPPORTING MEANS FOR WARP KNITTING MACHINE ROTATIONAL SECTIONAL BEAMS. I. L. Rikard (to Vanity Fair Mills). USP 2 823 530, Feb. 18, 1958. (1507)

STRAIGHT BAR KNITTING MACHINE FASHIONING CONTROL MECHANISM. S. A. Monk (to S. A. Monk Ltd). USP 2 823 531, Feb. 18, 1958. (1508)

SINKER HEADS FOR RECTILINEAR KNITTING MACHINES. J. L. R. Bogey (France). USP 2 823 532, Feb. 18, 1958. (1509)

CIRCULAR HOSIERY MACHINE YARN CLAMPING AND SEVERING MECHANISM. V. T. Stack and E. E. Knox (to Hanes Hosiery Mills Co.). USP 2 824 436, Feb. 25, 1958. (1510)

Automatic mechanism for severing yarns close to the machine needles during yarn feed insertion and withdrawal so that only short negligible ends are left on the inside of the stockings.

STOP MECHANISM FOR WARP KNITTING MACHINES. D. Pernick. USP 2 825 214, Mar. 4, 1958. (1511)

Stop motion control for tricot and raschel machines.

HOSIERY. J. C. Buckreus (to Bear Brand Hosiery Co.). USP 2 825 215, Mar. 4, 1958. (1512)

Seamless, sheer, shaped heel and toe portions are produced by knitting a seamless tube, closing the end of the tube by a seam, and then shaping a foot portion with the seam located entirely on the bottom.

FABRICS C 4

BELTING. W. Lord (to Dunlop Rubber Co. Ltd). BP 781 170, Aug. 14, 1957. Through BCIRA 37: 588 (1957). (1513)

The base fabric has weft threads disposed in two or more superimposed layers interwoven with warp threads all having the same interlacing pattern, crimp, and length.

STAIN REMOVAL FROM TEXTILES. H. E. R. Schmidt (Germany). BP 784 347, Oct. 9, 1957. Through BCIRA 37: 779 (1957). (1514)

To remove stains caused by nondrying oils, fats, or possibly aqueous, albuminous liquids, the fabric is sprinkled with finely powdered, pure magnesium silicate.

NONWOVEN FABRIC CONSISTING OF ADHESIVELY-BOUND YARNS. J. Pollitt and G. E. Chadwick (to Brit. Cotton Ind. Research Assoc.). BP 784 710, Oct. 16, 1957. Through BCIRA 37: 757 (1957). (1515)

Apparatus for the manufacture of a fabric in which the warp and weft are not interlaced but bound at the crossing points by means of an applied adhesive or by welding when at least one yarn contains thermoplastic fibers.

MULTICOLORED CARPET PILE YARN. D. B. Parlin (to Bigelow-Sanford Carpet Co.). USP 2 822 605, Feb. 11, 1958. (1516)

Multicolored pile yarn, resistant to pulling or catching, is formed of several strands enchained together by means of an overedge type stitcher.

BLOWN RUBBER FIBER-CONTAINING SHOE SOLE. T. K. Seiberling (to Seiberling Rubber Co.). USP 2 822 627, Feb. 11, 1958. (1517)

POWER TRANSMISSION BELTING. D. L. Waugh (to Dayton Rubber Co.). USP 2 822 856, Feb. 11, 1958. (1518)

Power transmission belting formed by applying a cover of bias cut fabric to an elastomeric core while it is flexed in such a way that when the belt is released from the flexing the woven threads will intersect at obtuse angles along the belt.

SOFT DURABLE NONWOVEN FABRIC. J. K. Sumner, P. Surowitz, and E. J. Yedlick (to Chicopee Mfg. Corp.). USP 2 823 142, Feb. 11, 1958. (1519)

Nonwoven fabric possessing a soft drape and handle, and resistant to washing, drycleaning, abrasion, and wrinkling, is obtained by depositing a thermosetting resin and a soft acrylate polymer on a web of overlapping fibers and curing by heat and pressure.

CONFORMING BANDAGES. T. P. Davies and D. B. Sullivan (to Johnson & Johnson). USP 2 823 444, Feb. 18, 1958. (1520)

See abstr. 3739 (1957).

STIFFENED LAMINATED FABRIC. D. Finlayson, M. W. Alford, and W. P. Pfeil (to Brit. Celanese Ltd). USP 2 824 035, Feb. 18, 1958. (1521)

Laminate for use in wearing apparel, e.g. semi-stiff collars, is made by bonding together under heat and pressure three layers, the interlining consisting of high-acetyl cellulose acetate fabric and the outer layers of nonthermoplastic fibers, e.g. cotton, linen, or viscose.

NYLON TENNIS STRING. F. J. Gregory. USP 2 824 485, Feb. 25, 1958. (1522)

Nylon multifilament core with a braided cover of nylon monofilaments whose diameter is many times that of each of the multifilaments.

FLEX TESTER. J. D. Conti (to Am. Viscose Corp.). USP 2 825 223, Mar. 4, 1958. (1523)

Apparatus for subjecting sheet material (particularly cellophane film) to repeated and uniform flexing until rupture occurs.

BACTERIAL FILTER DISC. C. M. De Woody (to Ace Glass Inc.). USP 2 826 265, Mar. 11, 1958. (1524)

Laminated bacterial filter disc formed of thin mats of nonwoven glass fibers and nonwoven thermoplastic fibers.

FINISHING AND CHEMICAL PROCESSING D

IMPROVING CELLULOSE TRIACETATE HEAT RESISTANCE. D. Finlayson and B. Krzesinski (to Brit. Celanese Ltd). BP 758 442, Oct. 3, 1956. Through BCIRA 37: 562 (1957). (1525)

Fabrics containing cellulose triacetate fibers that would stick to an iron at about 200° C are heated to about 185–200° C for a period of 15 sec to 10 min, whereby the safe ironing temperature is raised to at least 220° C. Heating may be effected by means of air, steam, or molten metal.

CONVEYING TEXTILES DURING FINISHING PROCESSES. W. Huber (to Stoffel et Cie). BP 759 476, Oct. 17, 1956. Through BCIRA 37: 554 (1957). (1526)

The material (filaments or flexible material in general) passes over a forwarding drum inside which, in a non-rotatable cage, is an electric motor that drives the drum through gearing in the cage, e.g. V-belt and pulley wheel. The motor is mounted for rocking so that the speed ratio between it and the gearing is variable by the rocking movement so as to maintain a constant tension in the material being forwarded.

FABRIC FINISHING APPARATUS. P. M. Cole (to E.I. du Pont de Nemours & Co.). USP 2 826 479, Mar. 11, 1958. (1527)

Parallel loading of fabrics is replaced by series loading in rotary finishing machines by preforming the fabric into a continuous multilayered loop having the length of a single wrap about the rotary carrier.

CHEMICAL PROCESSES D 1

COATING GLASS THREADS WITH SYNTHETIC RESIN. Inst. Textile de France. BP 781 489, Aug. 21, 1957. Through BCIRA 37: 586 (1957). (1528)

The material is first coated with a diethylene urea compound. Good bonding of the resin is claimed.

TREATING TEXTILES TO IMPROVE THEIR DIMENSIONAL STABILITY. Etablissements Schaeffer & Cie. BP 783 382, Sept. 25, 1957. Through BCIRA 37: 770 (1957). (1529)

Use of a polychloromethyl ether of a polyhydric alcohol (e.g. glycol) in the finishing of fabrics woven from cellulosic or animal fibers or their mixtures, to render them (1) dimensionally stable in the wash, (2) nonfelting, (3) firm to the touch, and (4) resistant to abrasion.

POLYEPOXIDE EMULSIONS. NV De Bataafsche Petroleum Maatschappij. BP 783 740, Sept. 25, 1957. Through BCIRA 37: 769 (1957). (1530)

The following textile finishes are claimed: (1) resistance to shrinking in rayon fabric, (2) resistance to pilling in Dacron, and (3) stiffening of cotton fabric (used instead of laundry starch). In many examples, zinc fluoborate is used to effect the cure of the impregnated fabric.

WATER-REPELLENT COATING. Ciba Ltd. BP 783 752, Sept. 25, 1957. Through BCIRA 37: 771 (1957). (1531)

Coating composition comprises (1) a solution in an organic solvent of a flexible copolymer of an alkyl acrylate or methacrylate with vinyl acetate, (2) an alkyl ether of a urea/ or melamine/formaldehyde condensate, and (3) a wax. The coated fabric is heated at 120–130° C to harden the composition.

ANTISTATIC TREATMENT FOR SYNTHETIC FIBERS. Boehme Fettchemie GmbH. BP 783 806, Oct. 2, 1957. Through BCIRA 37: 770 (1957). (1532)

The material is impregnated with a fatty acid (e.g. linoleic or linolenic) or alcohol (e.g. linoleyl) containing in the molecule more than 10 carbon atoms and at least 2 double bonds, or with an ester, ester salt, ether, salt or amide of such acid or alcohol. The amount applied is 0.01–1.0% on the weight of fiber.

ANTISTATIC TREATMENT FOR SYNTHETIC FIBERS. W. Baird, J. W. Batty, J. F. Harris, and G. T. Jones (to Imp. Chem. Inds. Ltd). BP 784 052, Oct. 2, 1957. Through BCIRA 37: 770 (1957). (1533)

The tendency of certain synthetic fibers (Terylene, nylon) to accumulate charges of static electricity is reduced by impregnating them with a polymeric quaternary ammonium compound prepared from a tertiary-aminoalkyl acrylate or methacrylate, followed by baking (e.g. at 150° C) and washing.

FLAME AND WATERPROOFING COMPOSITION. K. Quehl (Germany). BP 784 171, Oct. 2, 1957. Through BCIRA 37: 771 (1957). (1534)

Mixture for rendering textiles simultaneously flameproof and water-repellent comprises (1) a solution or dispersion of water-repellent agents (e.g. a paraffin) and of a chlorinated organic fixative (e.g. chlorinated rubber, chlorinated paraffin, polyvinyl chloride), (2) an organic acid (e.g. formic), (3) a stabilizer (gum arabic, albumin, methylcellulose), an aqueous solution of an aluminum or zirconium salt, and (4) antimony trioxide.

FABRICS WOVEN FROM HEAVILY PLASTIC-COATED CELLULOSE YARNS. H. Ewing and A. H. Gentle (to Brit. Celanese Ltd). BP 784 318, Oct. 9, 1957. Through BCIRA 37: 770 (1957). (1535)

Fabrics woven from cellulose (e.g. viscose) and cellulose acetate yarns that have been heavily coated (80–150%) with gelled, plasticized polyvinyl chloride or a similar water- and flame-repellent plastic are hot-pressed to effect coalescence of the coating over adjacent yarns.

BLEACHING TEXTILES. E. T. Fell (to Stevensons (Dyers) Ltd). BP 784 437, Oct. 9, 1957. (Addition to BP 727 419). Through BCIRA 37: 762 (1957). (1536)

Bleaching with permonosulfuric acid or a salt thereof for fibers other than wool was restricted in the parent specification to temperatures up to 80° C. This restriction is now removed; the bleach liquor may be boiling. The 8 examples briefly describe the bleaching of goods made from Orlon, Terylene, Acrilan, nylon, cotton, cellulose triacetate, and Ardil.